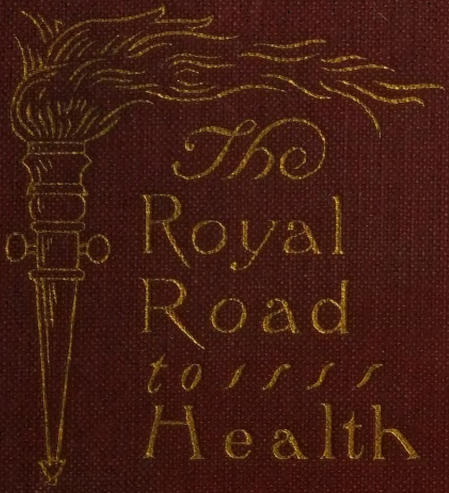


The Royal Road to Health

THE RECTORY
WOODBRIDGE, ONT

Betty

THE RECTORY
WOODBRIDGE, ONT.

The

Royal Road to Health

OR THE SECRET OF

HEALTH WITHOUT DRUGS

BY

CHAS. A. TYRRELL, M. D.

Founder of Tyrrell's Hygienic Institute. Inventor of the "J. B. L. Cascade." Professor of Hygiene. Ex-President of the Eclectic Medical Society of the City and County of New York. Originator of the Improved System of Physical Exercises, etc.

TWO HUNDRED AND SIXTY-FIFTH EDITION

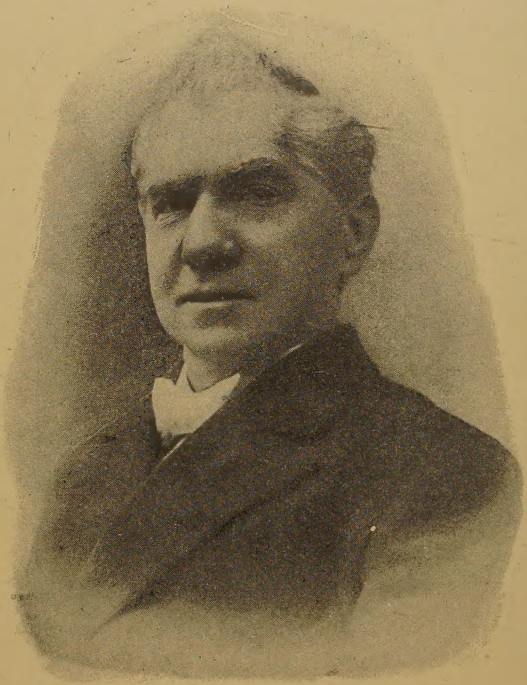
COMPLETELY REVISED, ENLARGED AND ILLUSTRATED

PUBLISHED BY

TYRRELL'S HYGIENIC INSTITUTE

152 WEST 65TH STREET, NEW YORK

1920



Chas. D. Lynch M.D.

TO MY WIFE

WHOSE ENTHUSIASM, AND UNFLAGGING INTEREST IN ALL MATTERS PERTAINING TO HEALTH IS EXCELLED BY NONE, AND WHO HAS BEEN A FAITHFUL CO-WORKER IN BUILDING UP THE SYSTEM OF TREATING DISEASE BY HYGIENIC METHODS HEREIN SET FORTH,

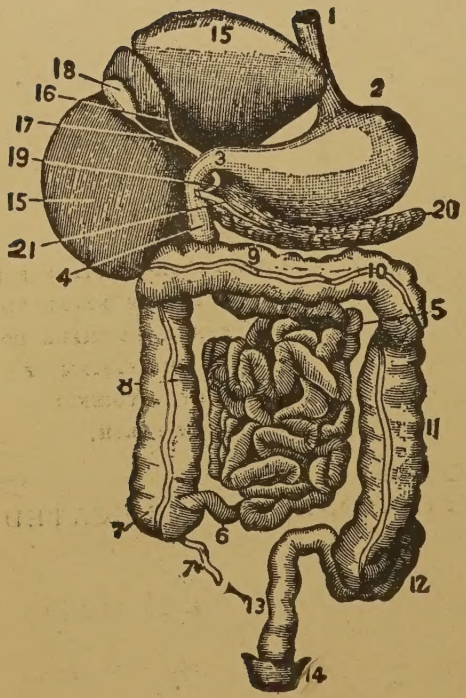
THIS BOOK IS

AFFECTIONATELY DEDICATED

COPYRIGHTED, 1907

BY

CHARLES A. TYRRELL, M. D.



THE DIGESTIVE ORGANS

(Viewed from the front.)

DESCRIPTION OF THE DIAGRAM

ILLUSTRATING THE

DIGESTIVE ORGANS OF MAN

1. Esophagus or Gullet.
2. Cardiac end of Stomach.
3. Pyloric end of Stomach.
4. Duodenum.
5, 6. Convolutions of Small Intestines.
7. Cæcum.
7* Vermiform appendage of Cæcum, called the *appendicula vermiformis.*
8. Ascending Colon.
9, 10. Transverse Colon.
11. Descending Colon.
12. Sigmoid Flexure, the last curve of the Colon before it terminates in the Rectum.
13. Rectum, the terminal part of the Colon.
14. Anus, posterior opening of the alimentary canal, through which the excrements are expelled.
15, 15. Lobes of the Liver, raised and turned back.

16. Hepatic Duct, which carries the bile from the liver to the Cystic and Common Bile Ducts.
17. Cystic Duct.
18. Gall Bladder.
19. Common Bile Duct.
20. Pancreas, the gland which secretes the pancreatic juice.
21. Pancreatic Duct, entering the Duodenum with the Common Bile Duct.

The illustration here given of the Digestive Apparatus of man represents the organs of food digestion, especially the alimentary canal and glands connected therewith, and to the reader of this book, or to any student of anatomy, it will be found of invaluable service as a reference.

The diagram gives a view of the digestive organs from the ventral or front side, a proper study of which cannot fail to impress every intelligent being with the reverential deduction of the Psalmist that we are *"fearfully and wonderfully made."*

PREFACE

TO THE

TWO HUNDRED AND SIXTY-FIFTH EDITION

In presenting to the public the two hundred sixty-fifth edition of this work, it is a matter for profound gratification to be able to state that the treatment described in its pages has steadily increased in public favor since its introduction. Tens of thousands of grateful people testify to its efficiency, not only as a remedial process, but better still, as a preventive of disease. Truth must ever prevail, and this treatment being based on natural law (which is unerring), must achieve the desired result, which is the restoration and preservation of health.

This edition has been completely revised and much of it re-written, and while the essential principles remain unchanged, some slight departures from previously expressed opinions may be noted; for in the years that have elapsed

since the first edition saw the light, some notable advances have been made in rational therapeutics and dietetics, and no one can afford to lag behind the car of Progress.

The arrangement of the book has been still farther altered, by adding another part, making eight in all, each part being devoted to a special phase of the general subject, thus simplifying it, and making its principles easier of application. Quotations have been freely made from articles written during the past three years by the author, in his capacity as editor of "Health," and several new formulas for the treatment of important diseases have been added to those that have appeared in previous editions.

While painfully conscious that the critically disposed may find something to condemn in its pages, the work is sent forth with the fervent hope that despite any defects it may possess it may, in the future, as in the past, prove the means of restoring to suffering thousands the possession of their natural and rightful heritage—health.

THE AUTHOR.

CONTENTS

PART I.

THE TRUE CAUSE OF DISEASE.

PAGE

Health is wealth. Digestion and assimilation explained. Evil effects of the retention of waste. The dangers of fæcal impaction. How auto-infection is accomplished. The mysteries of the circulation. Disease shown to be the result of imperfect elimination..... 13

PART II.

RATIONAL HYGIENIC TREATMENT.

Nature cures, not the physician. The action of microbes. The cathartic habit. The true action of cathartics explained, and popular suppositions corrected. A correct solution of the difficulty. "Flushing the colon" an ancient practice. Dr. Turner's post mortem experiences. Colon distortion illustrated. Objections to the ordinary appliances—danger in using the long, flexible catheter. Invention of the "J. B. L. Cascade," and description of it..... 29

PART III.

HOW TO USE IT.

PAGE

The complete process of "flushing the colon" explained, step by step, so that even a child might understand it. Objections answered. Advice to users of the treatment..... 51

PART IV.

PRACTICAL HYGIENE.

Longevity man's natural heritage. The care of the body—absolute cleanliness rare. The function of water in the human organism. Hot water the natural scavenger. The bath. Description of the skin, and its function. Hints on bathing. The wet sheet pack. Importance of fresh air. Interchange of gases in the lungs. Ventilation. Prof. Willard Parker on impure air. The function of the heart. The therapeutic value of sunlight..... 69

PART V.

EXERCISE.

Motion is life. Effect of exercise on the fluids of the body. How the tissues are nourished. Exercise for invalids. Complete system of breathing exercises for developing the lungs. Improved system of physical exercises, calling into play every muscle of the body—ensuring harmonious development. Special nerve exercise. How to stand and how to walk. All the above exercises plainly illustrated..... 91

PART VI.

THE DIET QUESTION.

PAGE

The replacement of waste. Appetite and hunger. The evils of gluttony. Vegetarianism versus flesh eating. Diet, a question of latitude. The cause of old age. Cretinism. Danger of earthy matters in food substances. Fruits are ideal foods. The true value of bread. Classification of the ingredients of food substances. Table of proportions. Table of digestive values. Vegetarianism discussed. A mixed diet the most reasonable. How to eat. Liquids at meals. When to eat. The no-breakfast plan. The effects of alcohol, tea and coffee. Improper habits of eating. The influence of mind upon digestion. The advantages of regularity. Nature's bookkeeping..... 111

PART VII.

TREATMENT OF DISEASE.

Complete formulas of treatment (with dietary rules) for over fifty different diseases, including Consumption, Appendicitis, Locomotor Ataxia, Paralysis, Dyspepsia, Pneumonia, Diabetes Mellitus, Uterine troubles, etc. Also all the principal ailments of children..... 150

MASSAGE, SHEET-PACKS, ETC.

Instructions for massage. How to use the stomach bath by three different methods. How to im-

PAGE

provise the Turkish Bath in your own home, without apparatus. How to use the wet-sheet pack. How to care for the "Cascade"..... 218

PART VIII.

SOME HELPFUL SUGGESTIONS.

Disease is the result of the operation of natural law —don't dread it. Don't treat symptoms; treat the fundamental cause. Pain is Nature's danger signal. Prevention is better than cure. The elements of prevention. Importance of a knowledge of physiology. The body, the vehicle of expression for the mind. The strenuous life. Tear worse than wear. The importance of reserve energy. The effect of the mind on the body. The human body as a bank. The importance of a daily balance. Cultivate cheerfulness. The habit of happiness. The folly of squandering health. Medicine and surgery compared. What children should be taught. The final word..... 225

The Royal Road to Health

PART I.

The True Cause of Disease.

Health is such an inestimable blessing, that the individual who shall devise means to preserve it, or to restore it, when lost, is deserving of all the thanks and honors that a grateful community can bestow. Unfortunately, there are very few who estimate life at its true value, until they are confronted with the grim destroyer, Death. No one can fully appreciate the priceless blessings of health until they feel that it has slipped from their grasp. The oft quoted phrase, "Health is Wealth," is truly a concrete expression of wisdom, for without the former, the latter is well nigh an impossibility. But its interference with the activities of life

is one of the least evils of sickness, for *perfect health* is the very salt and spice of life; without it, existence is "weary, stale, flat and unprofitable."

But let none despair, for it is my purpose to show how those who enjoy the blessing of robust health may preserve it indefinitely, and how those who have lost it may regain it—with excess of vigor, and once more feel that life is *indeed* worth living.

The great need of the present day is adequate instruction in physiology and hygiene, that humanity may not only know how to secure the restoration of health, when lost, but by attention to physiological and sanitary laws may retain good health indefinitely. The body is the theatre of constant change. The processes of tearing down and building up proceed without intermission during life. During every moment of life waste is being formed by the destruction of tissue, and this effete material must be promptly removed if the individual would enjoy health. Nature has provided adequate means for the removal of these substances which are valueless to the economy, the reten-

tion of which obstructs and irritates the complex mechanism of the system, the principal avenues for its expulsion being the lungs, the skin, the kidneys, and the intestinal canal.

The latter is infinitely more important than the others, since by it the waste products of digestion are expelled. If it fails to promptly fulfill its office, every vital function is interfered with; and in waste is re-absorbed directly into the circulation, redepositing in the very fountain of life matter which the system has thrown off as worthless. Should the system be exposed to a chill while in this condition, a congestion of the surface excretory vessels takes place; and practically the whole work of elimination is thrown upon the already hard-worked kidneys, frequently resulting in uræmic poisoning and death.

The presence of a grain of sand in a watch will retard its movements, if not arrest them altogether. What, then, must be the result of an accumulation of impurities in the physical system? The finely adjusted balance that is capable of weighing the thousandth part of a

grain is carefully protected under a glass cover, for even impalpable dust would clog its movements. Reflect, then, upon the amount of friction that must be perpetually going on in the human organism owing to the retention of effete matter! And since not even the most cunning product of man's handiwork can compare with the intricate mechanism of the body, the importance of eliminating the waste becomes manifest. Here, in a nutshell, lies the secret of disease.

Let us now consider how the retention of waste affects the system—how the deleterious effects are produced. There are three factors at work in this process, mechanical, gaseous and absorptive, the last named being infinitely the most pernicious. We will first consider the mechanical.

Nature has beautifully apportioned the space in the abdominal cavity, each part of the viscera having ample room for the performance of its special function, but any abnormal increase in size of any part of the contents of the cavity must necessarily create disturbance. Now, when the food leaves the stomach, where

it has been churned into a pulpaceous mass, it passes into the duodenum, or second stomach, where it receives an augmentation of liquid material from the liver and pancreas; consequently, when it reaches the small intestine, where absorption takes place, it is in a well diluted condition. During its passage through the small intestine, the nutrient portion of the ingesta is abstracted from it by the villi (small hair-like processes) with which the small intestine is thickly studded, so that at the end of its journey of about twenty-two feet (if digestion is normal), all that is of value to the organism has been appropriated—the remainder being refuse. The waste product passes into the colon, or large intestine, and should be promptly expelled. If prompt expulsion does not take place, this is what happens: The fluid portion of this semi-liquid waste is re-absorbed through the walls of the colon directly into the circulation, a percentage of the solids being deposited on the walls of the intestine. This process of accretion goes on from day to day, week to week, month to month, until it not infrequently happens that the colon becomes

distended to several times its natural size. Instances are on record, where these abnormal accumulations of fæcal matter in the colon have been mistaken for enlargement of the liver, and even pregnancy. A surgeon in London has a preparation of the colon measuring some twenty inches in circumference, containing three gallons of fæcal matter, and even larger accumulations have been reported. The foregoing instances are, of course, exceptional ones, but it is safe to assert that seventy per cent. of the colons of the human family (living under civilized conditions) are impacted, and some of them terribly so. It is impossible to estimate the amount of evil caused by an engorged colon monopolizing two or three times its allotted space in the abdominal cavity, crowding and hampering the other organs in their work.

But the effects of direct mechanical pressure are not the only ones. The accumulations in the colon necessarily arrest the free passage of the product of the small intestine, and that, in turn, causes undue retention of food in the stomach, with consequent fermentation; while the irritation, due to pressure on the nerve ter-

minals by the distension, and by the encrusted matter adhering to the intestinal wall, is simply incalculable.

The effects of gaseous accumulations in the alimentary canal are not thoroughly understood at present—that is—the pathological effects. The more direct effects, as manifested in abdominal distension, and the terrible distress that frequently follows eating, are unfortunately, but too well known. The reader does not need to be told that during the decomposition of organic substances, gases are evolved, and no matter where the process goes on, the results are always the same. Owing to the causes previously mentioned, the intestinal canal usually offers special facilities for the production of gases, owing to the retention of partially digested food, in a medium highly favorable to fermentation.

But the auto-infection that results from the absorption of the liquid waste into the blood supply is by far the most serious feature. The blood is the life. From it the system obtains all the material for the formation of fresh tissue, and it is a practical impossibility for good,

healthy structures to be built up from a tainted blood current.

This liquid refuse in the colon is composed of substances for which the system has no further use—it has rejected them; consequently they are foreign bodies, and as such, are the equivalent of poisons. The colon, in this condition, is a perfect hot-bed for the breeding of all kinds of poisonous germs, and the action of cathartics aggravates the condition by filling the pouched portions of the colon with a foul liquid which facilitates the absorption of the ptomaines and leucomaines through the mucous coat of the intestine. It is known now, that as much as three-fourths of this foul putrid substance may be absorbed, carrying into the system poisonous germs and excrementitious matter. Dr. Murchison states, "that a circulation is constantly taking place between the fluid contents of the bowel and the blood, the existence of which even now, is too little heeded." And Dr. Parker says, "It is now known, that in varying degrees there is a constant transit of fluid from the blood into the alimentary canal, and as rapid absorption. It is also stated on reliable au-

thority, *"that every portion of the blood may, and possibly does, pass several times into the alimentary canal in twenty-four hours."* Prof. Metchinkoff stated in a lecture at Paris: "Particularly injurious are the microbes of the large intestines. Thence, they penetrate into the blood and impair it alike by their presence and the products they yield—ptomaines, alkaloids, etc. The auto intoxication of the organism and poisoning through microbes is an established fact."

Having shown that the average colon is a fertile breeding ground for all kinds of poisonous germs, and that they are conveyed into the circulation by the interchange of fluids in that organ, it may be interesting to explain how these germs are conveyed to, and deposited in the various organs of the body.

We have in our bodies a system of canals called arteries and veins, having their head at the heart, which is the main pump that keeps the blood in motion. The arterial circulation consists of those channels which convey the blood—supposed pure blood—away from the heart to the different parts of the body, loaded with the

life-giving principle of sustenance, invigoration and heat, while the veins or venous circulation conveys to the heart and lungs the impure blood, often loaded with disease-breeding germs.

Now, in the blood, as it courses through our bodies, are myriads of little vessels called corpuscles; these are what give the blood a red color. There are also a smaller number of white corpuscles, that are known as phagocytes, whose mission is to destroy micro-organisms that are prejudicial to life. In order that you may know their use, I, for convenience sake and to make my meaning better understood, will call them little war vessels, loaded with soldiers. These vessels and their little warriors are continually sailing through our bodies, hunting for germs of disease, that they catch and destroy.

Now, suppose we take a violent cold, thus closing the pores of the skin, and that at the same time the colon is engorged, two of the most important outlets for the filth and decayed matter of our bodies are closed up—for the life of our bodies is one continual process of

building anew and tearing down; these two most important sewers are now closed. These little vessels now have their hands full, catching disease-bearing germs that nature cannot throw out through the colon or pores of the skin—both being closed—and we call this condition of things fever. The white corpuscle has but two dumping places now, the lungs or kidneys. Suppose that in the colon are the bacilli of consumption, and they are absorbed into the circulation. Ordinarily the white corpuscles would be able to destroy them, but now they are so overworked that the tubercular germ lands in the lung tissue alive and well, ready to commence his work of destruction and death. The person develops a hacking cough, and finally goes to the doctor, and he, if he knows his business, probably finds tuberculosis well established. Typhoid fever has its nursery in the intestine, and gets possession of the citadel of life in the same way as any other germ or contagious disease. What a terrible battle there must be going on in us between our life-preservers and the germs of disease.

Is is any wonder that people die of prema-

ture old age, of apoplexy, paralysis, dropsy, consumption, and the thousand and one maladies that scourge humanity? And it is not unreasonable to pour a few grains of diluted drugs into the stomach to purify the blood—even granting for the sake of argument that such a purpose could be accomplished by that means —when occupying nearly one-half of the abdominal cavity is an engorged intestine reeking with filth almost as foul as carrion, and which is being steadily absorbed into the circulation?

It may be asked, why has not this discovery been made before? In the first place, the colon has had but scant attention paid to it in the dissecting room. Its importance was not realized—the circulatory and nervous systems receiving the lion's share of attention. In the second place, in holding *post-mortems* the organ was avoided, cut off, if in the way, and thrown into the slop bucket. It was known to be always full, but no one ever asked whether or not it was natural in its fullness of fæcal matter, and as a result, probably the profession knows the least about this important organ of any in the human body. It is not natural that

this scent bag of filth should always be full of putrid matter. But, inasmuch as this is so, is it not a great detriment to our health to carry this mass of filth around with us, from day to day, from week to week, and from year to year —absorbing its poison back into the circulation?

The muscular fibres of the intestines are circular and longitudinal. In the large intestine the longitudinal fibres are shorter than the tube itself, which length permits the formation of loculi (cavities). These become the seat of fæcal accumulations, only too often unnoticed by the physician. It is undoubtedly a fact that the loculi of the colon contain small fæcal accumulations extending over weeks, months, or even years. Their presence produces symptoms varying all the way from a little catarrhal irritation up to the most diverse, and in some instances serious, reflex disturbances. When the loculi only are filled, the main channel of the colon is undisturbed.

The most common parts of the colon to become enlarged are the sigmoid flexure and the cæcum (see diagram in beginning of book), but accumulations may occur in any part of the

colon. The ascending colon is much more often filled in life than we are lead to believe; indeed, it may be said that chronic accumulations are oftener to be found in the ascending than in the descending colon. This is due partly to the fact that the contents of the colon have to rise in opposition to gravity, and partly to the semi-paralyzed condition of the muscular coat of the colon through inactivity. When the accumulations are large, the increased weight of the colon tends to displace it; and if in the transverse colon, that portion may be depressed, even into the pelvis.

The mass may be so enormous as to press upon any organ located in the abdomen, interfering with its functions; thus we may have pressure on the liver that arrests the flow of bile; or, upon the urinary organs, crippling their functions.

Of course, such excessive accumulations occur only exceptionally, and it is not to these that attention is particularly drawn, because when they are so excessive, any physician can detect them by palpation (touch).

It is to the minor accumulations particularly,

that I wish to draw attention—the accumulations that we see in the majority of patients who visit our offices. Such patients assure us that the bowels move daily, but the color of their complexions, and the condition of their tongues, are enough to assure us that they are the victims of costiveness.

Daily movements of the bowels are no sign that the colon is not impacted; in fact, the worst cases of costiveness that we ever see are those in which daily movements of the bowels occur. The diagnosis of fæcal accumulations is facilitated by inquiring as to the color of the daily discharges. A black or a very dark green color almost always indicates that the fæces are ancient. Prompt discharge of food refuse is indicated by more or less yellow color.

Such patients have digestive fermentations to torment them, resulting in flatulent distension which encroaches on the cavity of the chest, which in severe cases may cause short and rapid breathing, irregular heart action, disturbed circulation in the brain, with vertigo and headache. An over-distended cæcum, or sigmoid flexure, from pressure, may produce

dropsy, numbness, or cramps in the right or left lower extremity.

The reports of the *post-mortem* examination of the colons of hundreds of subjects reveals a series of horrors more weird and ghastly than were ever penned by Eugene Sue, or Emile Zola. The mind shrinks in dismay at the appalling revelations, and shudders at the possibility of the "human form divine" becoming such a peripatetic charnel house.

Is it any wonder that the average human system, being thus saturated with impurities, should succumb to the first exciting cause? Is it not, in fact, a greater marvel that the rate of mortality is not even higher than at present?

PART II.

Rational Hygienic Treatment.

Nature, and Nature *only,* can effect a cure. Fresh air, sunlight, pure water, diet and exercise are the great curative agents provided by Nature, and all that the physician can do, no matter to what school he belongs, is to remove as far as possible all existing impediments, and to see that the hygienic conditions are made as favorable as possible. For the rest, Nature, the marvellous builder, will, in her own mysterious way, build up fresh tissue, and, slowly but surely, repair the ravages made by disease.

Whether for the preservation of health, or the treatment of disease, when present, the chief thing is to cleanse the colon. It is useless to attempt to get rid of the effects while the cause is present.

If the principal drain in a dwelling becomes choked, what is the consequence? The noxious

and pestilent gases generated by the accumulated filth having no outlet, are forced back into the building, poisoning the atmosphere, and breeding contagion among the inhabitants. Deodorizing and disinfecting will simply be a waste of time and material, until the drain is cleared. The colon is the main drain of the human body, and if it be necessary, for sanitary reasons, to keep the house drains clean, how vitally important is it to keep the main outlet of the physical system free from obstructions.

Or, to use another homely illustration, when your coal stove has been run continuously for a long time, as a natural result it becomes clogged with cinders and ashes, causing the fire to burn badly. You encourage it with fresh fuel, rake it and shake it but without avail—the accumulations of débris are too great. You remove a portion, but its place is taken by more substance from above. At length you resort to the measure you should have employed at first—you "dump the grate" and start a fresh fire. The moral is obvious; dump the grate of the human system—in other words, empty the colon.

It has been previously shown that an impacted colon is neither more nor less than a prolific hot-bed for the wholesale breeding of disease germs—microbes—those infinitesimal organisms which science has demonstrated to be the cause of many phases of disease, or rather, the toxins (poisons) they produce, cause disease. Of course, there are harmless micro-organisms as well as hurtful ones; in fact, a large proportion of them are beneficial rather than otherwise; but some of them (notably the tubercle bacillus) are so intimately associated with disease that it is next to impossible to doubt their responsibility.

Microbes breed in fermentation; consequently, every particle of undigested food remaining in the stomach or intestines becomes an ideal nursery for their propagation. It has been demonstrated that food that has been subjected to the action of the gastric juice decomposes far more rapidly than that which has not —hence, with imperfect digestion, fermentation quickly takes place. If microbes are now introduced into the system, either by contact with sick persons, inhaling impure air in

crowded public buildings, or breathing in the dust on ill-kept streets, there is danger ahead; for if the recipient is not in a sound, physical condition, the microbes (finding congenial lodgment), multiply with the most marvellous rapidity, permeating every portion of the tissue—causing, in fact, DECOMPOSITION WHILE STILL ALIVE.

Every particle of animal or vegetable matter, even if only a single grain in weight, by exposure to the air, *putrefies,* breeds, and attracts to itself thousands of microbes, and becomes a center of infection. Thus, in a piece of street dirt containing organic matter, we may find upon examination, the germs of typhoid fever, diphtheria, scarlet fever, or consumption. When this piece of dirt is dried by the sun and pulverized by horses' hoofs and the wheels of vehicles, the particles of dirt are caught up by the wind, and sent whirling through the air, to be drawn into the lungs by those within reach. Of course, every one who breathes in the microbes of some particular disease does not catch it, or we should soon all be dead, but those who have not the resisting power of sound

bodies to kill these germs before they have time to set up their peculiar inflammation, are apt to realize the evil effects, a week, a month, or even a year afterwards.

It is evident then that to *cure* disease we must get rid of all fermentation in the system, and thus prevent the further breeding of microbes; and to *prevent* disease we must get the system into such a sound, healthy condition that disease germs cannot obtain a lodgment in it.

Now, this can only be accomplished by thoroughly cleansing the colon, and keeping it absolutely clean, thus preventing further contamination of the blood current—the fountain of life.

The intelligent reader, recognizing the absolute correctness of the foregoing proposition, will naturally ask, "Can such a thing be accomplished, and how?" We beg to assure the reader, most emphatically, that it can, but not by the means usually employed. It is perfectly plain that the cleansing process cannot be effected by cathartics, for at the best, they only afford temporary relief (witness the growth of

the cathartic habit), while on an impacted mass such as is commonly present in the colon, the influence they can exert is practically *nil*. The common experience of those afflicted with constipation is, that they commence with a laxative, gradually increasing the quantity and frequency of the dose, until it fails to act at all. Then the resort to a cathartic, with a similar experience, when it is exchanged for a more powerful one, and then for another still more powerful, until at last, it becomes impossible to move the bowels without a powerful dose.

That this is no overdrawn picture many of my readers will bear witness, and my brother practitioners can amply corroborate the statement, for they fully recognize the vital importance of removing the waste from the system. The pity of it is that they still persist in employing such a crude and ineffective method.

And yet there is a simple and effective method of dealing with this trouble; of removing the accumulations, no matter how large they may be; of thoroughly cleansing and purifying that important organ, the colon,

without the least demand upon the vital forces, and that is by

Washing It Out.

In plain English, the preservation and restoration of health depends entirely upon cleanliness, especially *internal cleanliness,* and to attain that condition which we are told is next to godliness, there is nothing equal to water—especially "hot water," which is the great scavenger of Nature.

Strange, that such an obviously common-sense proceeding should not be universal, is it not?

This method of internal purification is in reality of ancient origin, as we have it on good authority that it was practised by the ancient Egyptians, who, it is believed, acquired their knowledge from observing a bird called the Ibis, a species of snipe. The food of this bird, gathered on the banks of the Nile, was of a very constipating character, and it was observed, by the earliest naturalists, to suck up the water of the river and using its long bill for a syringe, inject it into its anus, thus relieving

itself. Pliny says this habit of the Ibis first suggested the use of clysters to the ancient Egyptian doctors, known to be the first medical practitioners of any nation, not excepting the Chinese. [See Naturalis Historia, Lib. VIII., Dap. 41, Hague 1518.]

Another writer, viz., Christianus Langius, says that this bird, when attacked with constipation at some distance from the river, and not able to fly from weakness, would be seen to crawl to the water's edge with drooping wings and there take its rectal treatment, when, in a few minutes, it would fly away in full vigor of regained strength.

The following experience from the pen of Dr. H. T. Turner, of Washington, affords incontestable proof that the colon is the seat of disease, and his testimony should be read with extreme care. It is no fanciful, theoretical statement, but the ghastly revelation of an appalling reality. While reading his statement, the reader will do well to refer to the engraving, representing the digestive apparatus, at the commencement of this book, as it will greatly facilitate his comprehension of the matter.

"In 1880 I lost a patient with inflammation of the bowels, and requested of the friends the privilege of holding a *post-mortem* examination, as I was satisfied that there was some foreign substance in or near the Ileo-cœcal valve, or in that apparently useless appendage, the Appendicula Vermiformis. (See explanation of engraving.)

"The autopsy developed a quantity of grape seed and popcorn, filling the lower enlarged pouch of the colon and the opening into the Appendix. This, from the mortified and blackened condition of the colon alone, indicated that my diagnosis was correct. I opened the colon throughout its entire length of five feet, and found it filled with fæcal matter encrusted on its walls and into the folds of the colon, in many places dry and hard as slate, and so completely obstructing the passage of the bowels as to throw him into violent colic (as his friends stated), sometimes as often as twice a month, for years, and that powerful doses of physic was his only relief; that all the doctors had agreed that it was bilious colic. I observed that this encrusted matter was evidently of long

standing, the result of years of accumulation, and although the remote cause, not the immediate cause of his death. The sigmoid-flexure (see engraving), or bend in the colon on the left side, was especially full, and distended to double its natural size, filling the gut uniformly, with a small hole the size of one's little finger through the center, through which the recent fæcal matter passed. In the lower part of the sigmoid-flexure, just before descending to form the rectum, and in the left hand upper corner of the colon as it turns toward the right, were pockets eaten out of the hardened fæcal matter, in which were eggs of worms and quite a quantity of maggots, which had eaten into the sensitive mucous membrane, causing serious inflammation of the colon and its adjacent parts, and, as recent investigation has established as a fact, were the cause of his hemorrhoids, or piles, which I learned were of years' standing. The whole length of the colon was in a state of chronic inflammation; still this man considered himself well and healthy until the unfortunate eating of the grape seed and popcorn, and had no trouble in getting his

life insured in one of the best companies in America.

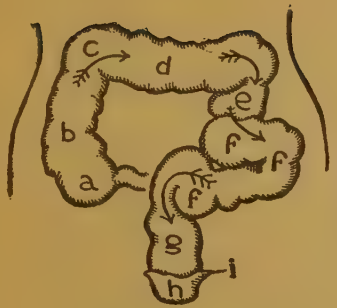
"I have been thus explicit in this description, from the fact that recent investigation has developed the fact that in the discovery described above, I have found but a prototype of at least seven-tenths of the human family in civilized life—the real cause of all diseases of the human body, excepting the grape seed and popcorn. That I had found the fountain of premature old age and death, for, as surprising as it may seem, out of 284 cases of autopsies held of late on the colon (they representing in their death nearly all the diseases known to our climate), but twenty-eight colons were found to be free from hardened, adhered matter, and in their normal healthy state, and that the 256 were all more or less as described above, except, perhaps, the grape seeds and popcorn. In many of them the colon was distended to double its natural size throughout its whole length, with a small hole through the center, and as far as could be learned, these last cases spoken of had regular evacuations of the bowels each day."

The question is often asked, and naturally so, why this unnatural accumulation is in the colon? The horse and ox promptly obey the call of nature; they know no time or place, and are blessed with clean colons. So are the natives of Africa. But the demands of civilized life insist upon a time and place. Business, etiquette, opportunity, and a thousand and one excuses stand continually in the way, and nature's call is put off to a more convenient season.

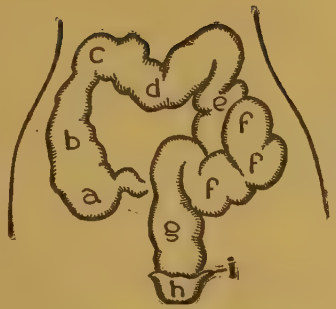
How many people are not presentable to themselves or friends, owing to the putrid smell of their bodies, so that in polite society strong colognes and other perfumes are used. Show me a woman who girds her waist with corsets or any tight clothing, and I will warrant you that she can never enjoy perfect health. The special reason for this is, that the lacing comes immediately where the transverse colon crosses her body. Now, if the sigmoid-flexure becomes loaded, because of its folding upon itself, how much more will the transverse colon become clogged if unnaturally folded upon itself by compression from each side folding it,

as demonstrated in some instances, almost double the whole length, into two extra elbows, where it, if natural, is straight (see engraving on next page). Many reasons have been given by physiologists and humanitarians why it is injurious for women to lace, but this reason outweighs them all. Wear the clothing loose, clean out the colon and heal it up, and life will be a continual blessing; for, if the main sewer of the body is closed or clogged, nature has but three other outlets; the capillaries or pores of the skin, the lungs in exhalation, or the kidneys. If the colon is clogged, the penned-up acid permeations of the stomach and duodenum will have to seek other outlets, which is indicated by the putrid smell of the body and a foul breath, with finally dyspepsia, and what is usually termed biliousness, torpid liver, etc.

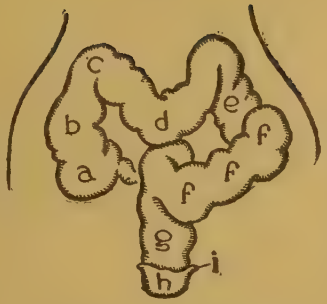
The condition of the colon (the physiological sewer) in the average adult having been demonstrated, does it need any argument to convince the intelligent thinker that the most rational and practical manner of dealing with this hot-bed of filth and breeding place of disease is to wash it out?



Normal colon. Arrows show course of fecal matter.



Abnormal colon contracted and bent into curves by pressure of corset.



Abnormal colon prolapsed. This condition may result from general low vitality or from corset pressure.

a, caecum. b, ascending colon. c, hepatic flexure. d, transverse colon. e, descending colon. f, f, f, sigmoid flexure. g, rectum. h, anus. i, sphincter ani.

With me, it has passed beyond the theoretical stage, for I have in my office fully 15,000 letters from grateful patients who have used this process, under my direction, with the most astounding results; scarcely a disease known to humanity, but has been relieved, and in ninety-five per cent. of cases, cures effected; while tens of thousands of gratifying messages have reached me from time to time; nor is the testimoney in its favor confined to the laity, for hundreds of physicians (including some of the most prominent authorities) testify to the wonderfully beneficial results achieved by its use.

We now come to the most important feature of the subject—the means for putting it into practice, for it will readily be admitted that such an admirable and common-sense method of treatment should have the most perfect means procurable for its application, but until the present time the available means have remained crude and undeveloped.

The more effective method of irrigating the colon is the "J. B. L. Cascade," a mechanical appliance invented and perfected by me, which

completely rids the process of injection of all its objectional features, and enables young and old, weak and strong, to use the treatment without the possibility of danger. It achieves the desired result far more effectively than any other known apparatus, with the least possible inconvenience to the patient, and yet so gently and easily that the operation, so far from being distressing or disagreeable, becomes a positive gratification.

The letters "J. B. L." are the initials of the words Joy, Beauty, Life, which aptly indicate its purpose and effects, for we confidently claim that its use will infallibly confer these three great blessings, it being the one safe and sanative method of regaining and preserving health. Without health there is no joy in life, and perfect beauty cannot possibly exist, while with health life becomes indeed worth living.

One of the gravest objections to all the hitherto existing appliances is the construction of the nozzle, or tube, that is inserted in the body, and through which the water is conveyed. These are all (without exception) made with an aperature in the end, or extreme tip, the

consequence being that a small jet of water is continuously directed upon one spot in the delicate and sensitive mucous membrane. With water at the necessary temperature this is a source of grave danger, and likely to result in serious injury. For little slits occur in the rectal lining, in which fæcal matter lodges, ultimately forming what are known as pockets, causing, first, irritation, then inflammation, and, finally, "proctitis"—chronic inflammation of the intestinal canal. The best authorities agree in condemning the direct jet, while rectal specialists regard it as one of their chief aids to income.

With these facts in view, the construction of my "injection point," or entering tube, engaged the special attention, finally, with the result that a most successful means of overcoming this dangerous objection has been provided. Instead of the opening in the end, the tip is made absolutely solid, so that the impact of the entering water is not felt at all, while it is provided with six rows of perforations on the sides, through which the water is evenly diffused over the walls of the rectum, which is a

most desirable thing in cases of hemorrhoids or rectal inflammations. It is also so constructed that the natural constriction of the sphincter muscles holds it firmly in position in the rectum, and while affording the water free passage into the colon, it prevents the escape of the fluid externally, thus rendering soiled garments impossible.

But the simplicity of the operation is one of its chief advantages, for the patient sits upon the appliance in ease and comfort while receiving the cleansing stream, and by following the directions the time occupied in the operation need not exceed fifteen minutes. The faucet is considered by experts as a most valuable feature, on account of the "dome" portion, which accurately fits the natural arch formed by the limbs when the body is in the seated position.

Many people are accustomed to use the bulb and fountain syringes in a reclining position, and some physicians recommend the patient to kneel in the bath tub, with the body bent well forward; an irksome, disagreeable position and quite unnecessary. The theory is, that the water will flow into the body by gravitation,

but they overlook the fact that the ascending and descending portions of the colon, being parallel in the body, the water, while flowing readily into the descending portions, would have to flow uphill in the ascending portions and by the time it reached there, the force would be exhausted.

The weight of the body furnishes greater force, which is proportioned to the size and bulk of the patient, but is not perceptible to him, on account of the solid construction of the tip of the "injection point," while the steady, uniform pressure exerted serves to distend the walls of the colon and thus liberate adherent matter. The great majority of people, however, use these crude appliances while seated over a vessel, which is decidedly injurious. By reference to the diagram of the digestive organs it will be seen that the "descending colon," that portion which terminates in the rectum, is larger than either of the other divisions of that organ. In fact, its capacity (in the average adult) is about three pints, equivalent to three pounds. Now this weight, in a flexible organ like the colon, must cause a sagging down, exerting a serious

strain upon its attachments to the abdominal wall, and by its pressure upon the sphincters will induce prolapse of the rectum. That is one reason why so many people find it almost impossible to receive enough water to make the treatment successful. When a physician, or trained nurse, is administering a high enema, it is a common practice to hold a folded towel against the rectum, to guard against this pressure and its possible results. The "dome" portion of the faucet (previously referred to) affords the desired support, automatically and effectually prevents any prolapse; while the handle of the faucet, projecting forward, between the limbs, may be manipulated with the greatest ease in controlling the flow of water; and, being seated on a warm cushion, the patient experiences a pleasant, soothing sensation, which completely allays any nervousness.

Moreover, realizing the immense advantage to be obtained by attacking the germs of disease in their chief breeding place, I have, after much patient experiment, found a marvellous healing and strengthening combination of remedies, absolutely harmless to human beings,

but certain death to all germs. This Antiseptic Tonic is merely added to the water used in this remedial process. It completely and speedily destroys the germs of disease. Although so potent in its action upon micro-organic life, it is perfectly harmless, even though a hundred times the necessary quantity should be forced into the intestinal canal. But the Antiseptic Tonic is not alone a germ destroyer, for it possesses admirable tonic properties, which act upon the muscular coat of the colon and speedily restores it to its normal condition.

Defecation, or the expulsion of waste substance fro mthe bowel, is accompanied by the contraction of the circular fibres of the said muscular coat, but when constipation has existed for any length of time, the accumulated matter adhering to the walls of the colon renders that organ partially, if not wholly rigid, hence the difficulty of evacuation; consequently, through disuse, the muscles become to a certain extent atrophied, and require stimulation to resume their natural function even after the colon has been cleansed. It is largely owing to the use of this Antiseptic Tonic that the

"Cascade Treatment" has been so successful in cases of obstinate constipation, as by its use the intestine speedily regains tone and power, and the parts are strengthened and healed. Inflammation is reduced, proctitis and hemorrhoids are benefited, and itching of the anus and rectum are overcome.

I unhesitatingly assert that if the colon be regularly cleansed and disinfected by this means, any bacilli or bacteria that may have obtained a lodgment in the system will be quickly destroyed and expelled—it cannot be otherwise.

And once the germs of disease are destroyed and their chief breeding place kept clean by this simple process, and the re-absorption of poisonous liquid waste into the system thus prevented, Nature, the great physician, will speedily assert itself and effect a restoration to health.

NOTE.

If the water is not readily expelled do not attempt to force it out by straining. Instead, flatten in the abdomen by forcibly contracting the abdominal muscles.

PART III.

How to Use It.

Having endeavored to show the true nature of disease, the rational method of treating it, and the superiority of the "Cascade" over all previously existing methods for carrying the treatment into effect, it may be well to explain the actual manner of using the "Cascade."

Having thoroughly cleansed the reservoir, the faucet should be shut off and a level teaspoonful of the Antiseptic Tonic dissolved in a little warm water in a cup or glass and poured into the reservoir, which should then be completely filled with water as hot as the hand can comfortably bear; not to simply dip the fingers in and withdraw them, but so that you can immerse the hand and allow it to remain without discomfort. If tested with a thermometer the water should be from 100 to 105 degrees Fahr. Hot water is the best solvent for impacted

fæcal matter, and, on the other hand, water below the temperature of the body may sometimes cause pain.

It is necessary that the reservoir should be absolutely full to insure the exclusion of air, as its presence is likely to prevent the proper reception of the water.

For this reason it is advisable to solicit the bowels before taking the treatment, as, if even no fæcal matter is expelled, pent-up gases are frequently liberated.

The reservoir having been filled as directed, the "Cascade" should be laid down and the "injection point" screwed in. It is then ready for use. Being all ready, the stick of rectal soap should be dipped in water—to moisten it—inserted in the rectum and withdrawn. This is simply to lubricate the passage and facilitate the admission of the "injection point." Then, standing in front of the seat on which the "Cascade" is lying (as if preparing to sit down), pass the left hand between the lower limbs and grasp the handle of the faucet, to guide the "injection point" into the rectum, and then carefully sit down upon the "Cas-

cade." When the "injection point" has been completely introduced and you are comfortably seated, relax the muscles and allow the whole weight of the body to rest freely on the "Cascade," and turn on the faucet, partially at first, then, after a few seconds, turn it on fully and you will readily receive the water.

The most convenient place to use the "Cascade" is in the bathroom, placing it on the closet seat, or any firm seat, such as a wooden-seated chair. But take care to have a vessel at hand in which to discharge the contents of the bowel.

As soon as the faucet is turned on and the water begins to flow into the body, proceed with the following movements: Commencing in the right groin, stroke firmly but gently, right across the pelvis, or lower edge of the abdomen, to the left groin, then directly upward with the hands to a point just above the umbilicus, or navel, then straight across the body and down to the right groin. These movements are directly over and along the course of the colon, and if they are made gently but firmly, the water will be assisted on its course. A study of the diagram of the digestive apparatus at

the commencement of the book will be of great assistance in enabling you to understand the reason for and the method of these movements.

It sometimes happens that after a small quantity of water has been injected there is a strong desire to expel it, which is sometimes due to nervousness, induced by the novelty of the operation. If this be so, shut off the faucet at once and resist the inclination, when, in a few moments, the desire will have passed away, then turn on the faucet again. Be sure to allow the full weight of the body to rest on the "Cascade," and have no fear. It is the weight of the body itself that furnishes the motive power, and to ease up the pressure defeats the object.

As soon as all the water has entered that you feel it possible to receive, turn off the faucet, rise from the "Cascade," sit over the closet, or vessel, and allow the contents of the bowel to escape. At the same time repeat the stroking movement previously described, but this time reverse it, commencing in the right groin, up, across and down to the left groin. These movements have a three-fold object: they assist the water in its passage backward and forward,

thus shortening the time of the treatment; they force along the accumulated matter in the colon with the current of water, and help to dislodge adherent matter from the walls of the colon.

As we proceed on the assumption that the colon is more or less impacted (which experience shows), we do not anticipate that more than two quarts will be received at the first treatment, but as the accumulations are removed by successive treatments, the capacity of the colon is increased, so that at the end of the second week enough should be received to completely fill the colon. The amount of water varies, of course, with the bulk of the individual, but the capacity of the colon, in the average well-grown adult, is about four quarts, but even in the case of a person below the average size, it may safely be assumed that three quarts of water are really necessary for a successful treatment.

Whenever pain is present during the treatment it is usually due to one of two things: either the water has not been sufficiently hot, or the reservoir has not been completely filled, but, if in spite of these precautions, pain should

be present, it will be found advisable, after a small quantity of water has been injected (say from a pint to a quart) to shut off the faucet, rise from the "Cascade" and expel it; then, upon returning to the "Cascade," it will usually be found that the cleansing of the lower portions of the bowel has removed the trouble. The same method of procedure holds good when there is any difficulty in injecting the water. In cases where pain is persistent, even although all precautions are taken (although such are extremely rare), a decoction of anise seed, made by steeping a tablespoonful of the seed in a pint of boiling water, added to the water used for flushing (omitting the Antiseptic Tonic), will act as an anodyne on the intestine, and completely subdue the pain.

The frequency with which the treatment is used will depend upon the nature of the trouble and the length of time it has existed. In the great majority of cases it is recommended to be used as follows when commencing the treatment: The first week use it every night; the second week every alternate night; after that use it twice a week, or as occasion seems to

demand it. For the simple preservation of health, twice a week will be found amply sufficient. After using the "Cascade" it will be found extremely beneficial to inject from a half pint to a pint of cool water and retain it. This will be found not only a valuable rectal tonic, but an excellent diuretic as well, as it will pass off by way of the kidneys, cleansing and purifying those organs.

The "Cascade" should not be used within three hours after eating a full meal, as, if both the stomach and transverse colon are distended at the same time they press upon each other, and the stomach, being the more sensitive of the two, nausea is likely to be produced; but although (with the above proviso) the treatment can be used with benefit at any period during the twenty-four hours, yet, just before retiring at night is by far the best time to take it, for several reasons. Firstly, it is usually the most convenient time for the majority of people. Secondly, it invariably induces a good night's rest; for no sleeping potion can equal its effects in that direction. Thirdly, night is Nature's repairing season,

when she is busy making good the ravages of the day—replacing the waste by building fresh tissue and by putting the system into a cleanly condition and purfying the blood current; at that season you are co-operating with Nature and may confidently expect, and will undoubtedly secure, the best results.

After using the "Cascade" it is quite possible that there may not be a movement of the bowels until late the following day. This must not be considered as evidence of constipation, but simply a lack of matter to discharge. In a perfectly natural condition of existence there should be at least two movements of the bowels during the day, but it must be remembered that the human system has acquired bad habits, and it will require some time before perfect conditions are re-established. If, however, from a half pint to a pint of hot water is sipped in the morning, a half hour before breakfast, it will stimulate the bowels to action, even though the "Cascade" had been used the night before, while its cleansing effect upon the stomach will assist the digestive functions in a marked degree.

* * * * *

It may be accepted as a truism that success invariably excites envy, therefore, it is but reasonable that the astounding results that have attended this method of treatment should have aroused a certain amount of antagonism. The hardy individual who dares to propose a new departure in the method of treating disease must be prepared to hear his theories ridiculed, his system denounced, and, possibly, his motives impugned. Consequently, it is not surprising that the "Cascade Treatment" has some objections urged against it.

The first objection I am confronted with is, "it is not natural." I willingly concede that point, and will add that neither is an obstructed and engorged colon natural.

We are living (in a large measure) an artificial life. In his barbaric state man obeyed the calls of nature without regard to time or place, and it is safe to assert that under those conditions an obstructed colon was an unknown quantity. But in deference to the demands of civilized life we disregard Nature's calls and defer the response until a convenient

opportunity presents itself, and for this violation of natural law a penalty is inflicted.

An obstructed colon, therefore, being itself unnnatural, man is obviously justified in using the brains that Nature has endowed him with to cleanse it. An artificial limb is unnatural, but would the same objection hold good that because a man has had the misfortune to suffer amputation, he must, therefore, limp through life on crutches, rather than use the mechanical substitute that man's ingenuity has devised?

Common sense teaches us, and experience has amply confirmed the teaching, that flushing is not only the easiest, but the most effectual means of accomplishing this purpose; and it is unmistakably the most harmless, inasmuch as we use Nature's most simple and effective cleansing agency in the process—pure water. Sickness is in itself unnatural, and until the system can be restored to its natural condition reason plainly shows us that we must cooperate with Nature and assist in removing these impurities from the system, a task which our disregard of her warnings has prevented her from accomplishing. Cathartics simply

excite the excretory processes, and stimulate Nature to a violent effort to expel them, the unnatural exertion being followed by a feeling of languor, for all purgative action is debilitating. Flushing, on the contrary, acts directly on the accumulated matter in the colon (which cathartics never do), and, instead of causing an unnatural excitation of any of the natural processes, it induces a calm, restful feeling and a sense of profound relief.

"It is a debilitating practice," the objectors urge. Here, again, I join issue. I am in a position to prove a decided negative.

I have the evidence of thousands of people to the contrary—people who have tested the treatment, and, setting aside the weight of testimony, even the most prejudiced mind must admit, that actual, *personal* experience is more to be relied on than unsupported theory.

Dr. Forrest said that his patients who had used the treatment for months, and even years, had steadily gained in strength and flesh all the time.

Another favorite objection is that "it causes the intestines to become weakened and depend-

ent upon this unnatural method." To this I reply that it is a well-known fact that at least fifty per cent. of people in civilized (?) communities are slaves to the purgative habit, the system refusing to fulfil its functions without this unnatural excitation; therefore, if dependence must be placed in something, we should unhesitatingly give the preference to water, as against cathartics, but the whole weight of evidence shows that the objection has no foundation in fact.

On this subject Dr. Forrest said: "Flushing the colon does not cause a weakening of the intestines. When this procedure is no longer necessary, owing to restored health, the intestines have also been restored and improved in tone and will carry on their functions unaided."

Dr. Stevens, who has used the treatment upon himself and patients for over twenty years, says that it in no wise interferes in his case with the normal movement of the bowels. To test it in this respect he has frequently discontinued its use for a week, with the result of a regular movement, as soon as enough fæcal matter had accumulated to demand it.

He recommends flushing every two or three days as a preventive of disease. For over twenty years he has practiced flushing upon himself as a precaution, and, although now between seventy and eighty years old, since beginning its use he has never known a day of sickness.

It is contended by some people, including a percentage of physicians (who should know better), that the frequent use of this treatment will so stretch the colon that it will remain permanently distended. This argument is so totally opposed to physiological law, to say nothing of experience and common sense, that it is almost laughable. The veriest tyro in the matter of exercise knows that exercise develops a muscle; that repeated flexion and extension of the arm, for instance, will strengthen the muscles of that limb, not cause them to lose their contractibility. All muscle fibres are alike in structure, except that some are voluntary, others involuntary, but that difference is simply due to the difference in the source of nerve supply. There is no reason that can be shown why the muscles of the colon should lose their

elasticity through exercise in contra-distinction to all the other muscles of the body, since they are not subjected to any extraordinary strain, the extreme tension only lasting for a few seconds, while as soon as the water commences to escape, relaxation follows, and, in addition, heat acts as a stimulant. The objection does not even merit serious consideration.

"It operates against peristalsis," we are told. I deny it, for the energy evinced by the intestine in expelling the water is proof of increased peristaltic vigor, if it is proof of anything. And even if it did suspend peristalsis for a few minutes, is it not a fact that other natural functions can be suspended for a much longer period, only to be resumed with unabated vigor?

Equally absurd, and destitute of foundation, in fact, is the objection frequently advanced that the washing of the interior surface of the colon is injurious; as it washes away the fluid that Nature secretes for the purpose of this lubrication.

Where, in the name of common sense, do they get their authority for such a statement?

Do they not know that such a contention is in direct opposition to physiological law? Does bathing the external surface of the body prevent the further excretion of perspiration; or bathing the eyes destroy the functions of the Meibomian glands? Does the drinking of water prevent any further discharge of saliva into the mouth, or of gastric juice into the stomach? If the washing away of a secretion destroyed the power of the secreting gland, human existence would be brief indeed.

The truth is, that not one in ten thousand has any practical knowledge of the subject. They may possess a smattering, and in the endeavor to make it show to advantage, they draw upon their imagination to supply the deficiency. On the other hand, I have been making this subject a constant study for the past twenty years, having had experience in thousands of cases, and therefore, contend that my opinion is of more value than that of the average man —whether physician or layman—and is at least entitled to respectful consideration.

Whether the practice of the treatment is to be persisted in will, of course, depend upon the

nature and habits of the patient. If the pernicious habits that caused the trouble are not abandoned, a constant resort to the treatment will be necessary. If the patient is naturally of a costive habit, and has thoroughly weakened his intestines by a reckless and indiscriminate use of cathartics, it will require a long persistence in reformed habits before the weakened bowels will have gained sufficient strength to fulfil their functions normally.

It is advisable for elderly people to use it more or less continuously throughout life, for with advancing years the bowels naturally become less active, and this simple process offers a valuable means of assistance to flagging nature at the cost of little, if any, exertion; in fact, after a little experience no more will be thought of using the "Cascade" than of taking a meal.

I would strictly impress on the minds of those who propose to give this treatment a trial that, like every other undertaking in life, thoroughness and persistence are absolutely indispensable to success. No great end was ever yet achieved except by hard work,

conscientiousness and perseverance, and these three factors are in the highest degree necessary to restore health to a system from which it has long been estranged.

If a chronic, deep-seated disease can be cured in a year, by a home process, so simple that a child can understand and practise it, the individual so benefited should consider himself or herself most fortunate; and few will deny that the end in view—restoration to health—is a full and ample recompense for the thorough and persistent effort necessary to attain it. If it were a question of large pecuniary profit to the patient, it is scarcely necessary to say that every nerve would be strained to its utmost tension to bring the coveted prize within his grasp; yet here the reward is of infinitely greater value, a prize compared with which riches are as dross in comparison with gold. It is Health, without which the acquisition of Wealth, is well-nigh impossible, and its possession as profitless to the possessor as Dead Sea fruit.

"Heaven fights on the side of the strongest battalions," is a military aphorism, and Nature

ranges herself on the side of the individual who co-operates with her most faithfully, who, in the struggle for the regaining of health, brings the greatest amount of determination and perseverance to the encounter.

Perseverance in the treatment will achieve results that seem little short of miraculous to those accustomed to the "hit or miss" methods that have so long been in use. And, best of all, the benefit attained will be permanent, for the system being thoroughly cleansed, and kept so, nothing but fresh, firm, healthy tissue is formed, so that after a year's conscientious treatment the person practising it will be practically a new being.

In dealing with the subject of constipation, which is the most prevalent of all disorders of the body, and is, in fact, the fundamental cause of ninety per cent. of human ills: the importance of drinking freely of water, from one to two hours after eating a meal, cannot be overestimated, and most essential of all is the glass of water, half an hour before breakfast. If the digestion is faulty, the morning glass should be hot and sipped slowly.

PART IV.

Practical Hygiene.

There is no reason why any human being should die before eighty at least. With proper care the century mark should be reached in the majority of cases. This may sound like an extravagant assertion, but it is absolutely true. It all depends upon taking care of the human machine. Ask an engineer how long a locomotive would last if drawn at express speed every day, or if left standing idly on a siding! He will tell you that overwork or disuse are fatal to mechanism, so far as its capacity for lasting is concerned. Well, the most finished product of man's handiwork in machinery cannot begin to compare with that wonderful, complex piece of mechanism—the human body; and if care will prolong the life of the lifeless machine, the veriest dullard cannot fail to perceive that the same rule applies

with ten-fold force to the human organism, which possesses within itself the power of recuperation—a living machine, every atom of which is being daily replaced as fast as the friction of life disintegrates.

If the locomotive were capable of being reproduced in like manner—of having the daily waste of substance replaced during rest by proper attention to its needs—do you think its owners would ever allow it to wear or rust out? Would they not bend every energy to prolong its existence indefinitely? Most assuredly they would. And is the body, the earthly habitation of the real man, of less importance to himself than the creations of his own hands? Common sense says, "No!" But daily experience shows us that the bulk of humanity are far less careful of the earthly husk that shelters the divine *ego* than of the machinery that ministers to their wants. We repeat, there is no reason why man should not live to be a hundred, or even more, if only proper care be exercised. The hurry of modern life is fatal to the expectation of longevity, so also is over-indulgence in the pleasures of the table, which

is one of the besetting sins of the present generation. If from childhood the care of the human body was made the subject of constant instruction, the second generation from now would see such a marked change in the personnel of the race as would astound even the most sanguine. What if a few less dollars were piled on each other? Which is the more to be desired, a perfect, healthful physique, or a full purse?

To preserve the body in health is an easy matter, if the individual will only bring the same thoughtful intelligence to bear on the subject that he does on the ordinary affairs of life. The natural agencies for the preservation of health are, as previously stated, Pure Water, Sunlight, Fresh Air, Diet and Exercise. The first three are furnished "without money and without price" by the all-wise Mother, while the two last simply require a slight exertion of will power, tempered with intelligence.

Of the quintette of agencies mentioned above, water is one of the most important. Water is the original source of all animal life. From

it the earliest species were evolved, and by the natural law of correlation, it continues to be one of the most important factors in sustaining existence. Water enters more largely into the composition of all organic substance than the majority of people dream of, and this is notably true of the human body. Few people realize that sixty-six per cent. of their earthly tenement consists of the fluid in which they perform their ablutions, yet such is the fact.

This important physiological truth should be carefully laid to heart, for it accentuates the vital necessity of imbibing a sufficient quantity of fluid daily to preserve the proportion in the system requisite for health. Water is the only known substance that possesses the power of permeating every cell and fibre of the living organism, without creating disturbance or irritation. Water is, in fact, an indispensable necessity for physical existence—its excess or deficit creating abnormal conditions; but the latter is the more common condition. Being universally present in all the tissues of the body, water is the principal agent in the elimination of waste material from the body, ac-

cording to Nature's plan—hence, for the preservation of health, every adult should drink from two to three quarts of water per day, certainly not less than two quarts. One of the remedial factors in the copious use of water in "flushing the colon" is that a liberal percentage of it is absorbed through the walls of the colon, directly into the circulation, thus increasing the amount in the tissues, and causing more fluid to pass through the kidneys—cleansing them.

Hot water used as a stomach bath (see description in the appendix at end of book) is a valuable auxiliary in the preservation and restoration of health.

By its means the stomach is cleansed of mucous accumulations and particles of undigested food, thus enabling it to perform its functions satisfactorily. If, as is often the case (more especially with dyspeptics) undigested food remains in the stomach, it ferments, causing what is known as sour stomach, and is productive of many evils. If we keep the ferment out of the stomach by occasionally washing it, and prevent the generation of foul gases in the

colon, by regularly flushing it, the bile will effectually prevent any fermentation in the intestines; and with the body in this cleanly condition, sickness is well-nigh impossible. But there are external applications of water, which are equally important for the preservation of health, and first and foremost is the bath.

It is a matter of authentic history that the most highly enlightened and prosperous people of the world have been celebrated for their devotion to the bath as a means of securing health and vigor—as a means of curing disease, and preventing it, by promoting the activity of the skin. The excavations at Pompeii show the devotion of the people to luxurious bathing. The Romans are famous to this day for the magnificence of their lavatories and the universal use of them by the rich and poor alike.

Most people are familiar with the aphorism, "cleanliness is next to godliness," a statement that by implication relegates cleanliness to the second place, but we would transpose this stated sequence of conditions, and assign the premier position to cleanliness; for we contend that purity of soul presupposes purity of

body. It is true that we sometimes find a "jewel in an Ethiop's ear," but it is the exception that proves the rule.

But it is not from the moral standpoint that we wish to consider the subject of physical cleanliness, but from the hygienic. How few people there are who are *really* physically clean! The outward semblance of cleanliness too frequently poses as the real article.

Among the white races of the earth, the English are the greatest devotees of the daily tub, to which custom their ruddy complexions are largely due; but Japan is pre-eminently in the lead in the matter of daily bathing, for it is doubtful if there could be found in the land of the "little brown people" a single individual who does not bathe the whole body daily, unless physically incapacitated.

The skin is such an important excretory organ that the importance of keeping its innumerable infinitesimal outlets free from obstruction cannot be overestimated. As the structure of the skin may not be understood by the average reader, we will briefly describe this wonderful depurating organ, that the paramount

importance of its functions may be properly appreciated.

The skin consists of two layers, the derma, or true skin, and the epidermis, or cuticle. It is the principal seat of the sense of touch, and on the surface of the upper layer are the sensitive papillæ, which receive and respond to impressions; and within, or imbedded beneath it, are organs with special functions, viz., the sweat glands, hair follicles and sebaceous glands. Its value as a means of depuration is incalculable, as by it vast quantities of the aqueous and gaseous refuse matter is conveyed from the body. By the aid of a four diameter magnifying glass applied to the skin of the palm of the hand, the curiously inclined will observe that it is divided into fine ridges, which are punctured regularly with minute holes. These are the mouths of the sweat glands, and generally known as the pores of the skin. Their function is to bring moisture to the surface of the skin; which is secreted from the blood, and chemical analysis reveals the fact that this moisture is always more or less loaded with worn-out and effete matter. It is estimated

that there are 5,800 of these glands in each square inch of skin, and that their total length, in an ordinary person, if placed end to end, would be ten miles. Then there are the sebaceous, or oil glands, which oil the skin and keep it flexible. Now, as the processes of destruction and upbuilding are perpetually going on in the body, and the skin being one of the principal avenues by which the refuse is removed, the vital necessity of keeping this organ perfectly clean becomes apparent at once; for this refuse matter, if retained in the system, acts as a poison, and furnishes food for disease germs to feed upon.

It has been demonstrated by experiment upon dogs from which the hair had been shorn that a coat of varnish applied to the body (thus effectually closing the pores), will cause death in a very short while. No better object lesson could be given of the imperative necessity of keeping the skin perfectly clean, if you wish to enjoy good health.

It is an easy matter to keep all these miles of tubing in a perfectly natural and active condition, by a strict observance of the funda-

mental principle—cleanliness. Bathe the body daily, complete immersion, if practicable; if this is not possible, then sponge the body thoroughly, all over; but if both methods are rendered out of the question by circumstances, then adopt the best substitute, namely, vigorous friction with a coarse towel.

As to the temperature of the bath, that must, to a great extent, depend upon the conditions of life, and the predisposition and susceptibility of the individual; but the cold bath should always be employed in preference to the warm bath, when conditions permit. The cold bath is a powerful stimulant to the sympathetic nervous system, and as that is the great regulator of nutrition, the value of cold bathing to those afflicted with digestive disturbances will be readily understood, since all the digestive and assimilative processes are quickened by it. The glands of the stomach secrete more hydrochloric acid on account of this stimulus, and a better quality of gastric juice being thus formed, not only is the digestion improved, but the system is better enabled to resist microbic invasion. The cold bath also stimulates the

vaso-motor system, which regulates the circulation, by contracting and dilating the vessels, and increases the activity of the capillaries, or small blood vessels. It thus increases the resisting power of the skin, by enabling it to reheat the surface after a chill, and this is the reason why people who habitually use the cold bath are practically proof against "colds."

People employed in sedentary occupations are especially benefited by the cold bath, but should employ a hot bath for three or four minutes beforehand. It is also especially beneficial to women, as, being an excellent nerve tonic, it successfully combats all forms of nervous weakness, and is an admirable preventative of hysteria.

Children under seven years of age do not bear the application of cold water very well, and it is advisable not to use the water at a lower temperature than 70° Fah., and to employ friction constantly while administering it; but after that age the temperature may be gradually lowered. In old age the neutral bath, from 75 to 85° Fahr., will be found the best for general use, accompanied by friction.

The bath, to be thoroughly beneficial, should be taken at one of the three following portions of the day: immediately upon rising, about ten o'clock, or just before going to bed. The early morning bath is, however, immeasurably the best, and if cold, will be found a wonderful aid in promoting health and vigor, and being such a necessity, especially in the preservation of health, and the constant practice of it, strongly urged, we append the following useful suggestions for guidance:

A full meal should not be taken in less than half an hour after bathing. Nor should a bath be taken in less than an hour and a half after eating a full meal.

You can bathe with impunity in cold water when the body is perspiring freely, as long as the breathing is not disturbed, nor the body exhausted by over-exertion.

Never bathe in cool or cold water when the body is cold. First restore warmth by exercise.

Always wet the head before taking a plunge bath, and the chest also, if the lungs are weak.

In cases of sickness, where it becomes necessary to assist Nature in ridding the system of

impurities through the medium of the sweat glands, the "wet sheet pack" will be found invaluable. It is usually regarded by those imperfectly acquainted with its action as simply the chief factor in a sweating process, but it is more than that. Not only does it open up the pores and soften the scales of the skin, but it "draws" the morbid matter from the interior of the body, through the surface to the pores. It is of immense value in all cases of fever, especially bilious fever.

It should be born in mind that "flushing the colon" should always precede the use of the "pack."

If any one doubts the purifying efficacy of this process he can have a "demonstration strong" by the following experiment: Take any man in apparently fair health, who is not accustomed to daily bathing, but who lives at a first-class hotel, takes a bottle of wine at dinner, a glass of brandy and water occasionally, and smokes from three to six cigars per day. Put him in a pack and let him soak one or two hours. On taking him out the intolerable stench will convince all persons present

that his blood and secretions were exceedingly befouled, and that a process of depuration is going on rapidly.

Full directions for the use of the pack will be found at the end of this work.

It will be necessary to take into consideration the vitality of the patient and regulate the temperature of the sheet accordingly. The best time to use it is about ten in the morning, or nine in the evening.

The Turkish bath (see last page) is another important factor in treating disease, also the hot foot bath, for all disturbances of the circulation, cramps, spasms and affections of the head and throat. Hot fomentations, which draw the blood to the seat of pain, thereby raising the local temperature and affording relief, and wet bandages for warming and cooling purposes will likewise be found valuable aids.

Humanity at large has never estimated water at its true value, yet all the gifts in Pandora's fabled box could never equal that one inestimable boon of the Creator to the human race. Apart from its practical value, there is nothing in all the wide domain of Nature more beauti-

ful, for in all its myriad forms and conditions it appeals equally to the artistic sense. In the restless ocean, now sleeping tranquilly in opaline beauty beneath the summer sun, now rising in foam-crested mountainous waves beneath the winter's biting blast, its sublimity awes us. In the mighty river, rolling majestically on its tortuous course, impatient to unite itself with mother ocean, its resistless energy fascinates us. In the gigantic iceberg, with its translucent sides of shimmering green, its weird grandeur enthralls us. In the pearly dew drop, glittering on the trembling leaf, or the hoar frost, sparkling like a wreath of diamonds in the moon's silvery rays; in the brawling mountain torrent, or the gentle brook—meandering peacefully through verdant meadows, in the mighty cataract or the feathery cascade, in the downy snowflake, or the iridescent icicle—in each and all of its many witching forms it is beautiful beyond compare. But its claims to our admiration rest not alone upon its ever varying beauty. When consumed with thirst, what beverage can equal a draught of pure, cold water? In sickness its value is simply in-

calculable—especially in fevers; in fact, the famous lines of Sir Walter Scott, in praise of woman, might be justly transposed in favor of water to read thus:

> "When pain and sickness wring the brow,
> A health-restoring medium thou."

And, if we admire it for its beauty and esteem it as a beverage, how inconceivably should these feelings be intensified by the knowledge that its remedial virtues are in no-wise inferior to its other qualities!

The next in importance of the great health agencies is Fresh Air. Perhaps we ought to class it as the most important, for although people have been known to live for days without water, but without air their hours would be quickly numbered. Air is a vital necessity to the human organism, and the fresher the better—it cannot be too fresh. The oxygen gas in the air is the vitalizing element. The blood corpuscles, when they enter the lungs through the capillaries, are charged with carbonic acid gas (which is a deadly poison), but when brought into contact with the oxygen, for which they have a wonder-

ful affinity, they immediately absorb it, after ejecting the carbonic acid gas. The oxygen is at once carried to the heart, and by that marvelous pumping machine sent bounding through the arteries to contribute to the animal heat of the body.

When it is taken into account that the lungs of an average sized man contain upwards of six hundred millions of minute air cells, the surface area of which represents many thousands of square feet, the danger of exposing such a vast area of delicate tissue to the action of vitiated air can be readily estimated. No matter how nutritious the food may be that is taken into the stomach, no matter how perfect the processes of digestion and assimilation are, the blood cannot be vitalized without fresh air.

It is estimated that the blood is pumped through the lungs at the rate of eight hundred quarts per hour, and that during that period it rids itself of about thirty quarts of carbonic acid gas, and absorbs about the same amount of oxygen. Think for a moment of the madness of obstructing this interchange of elements

which is perpetually going on and on which life depends!

It is more especially during the hours of sleep that fresh, pure air is needed, for that is when Nature is busiest, repairing and building up, and calls for larger supplies of oxygen to keep up the internal fires, but her efforts at repairing waste are rendered futile if you diminish the supply of the vitalizing element and compel her to use over again the refuse material she has already cast off.

In spite of the amount of literature devoted to sanitary matters, it is astonishing how little is understood of the principles of ventilation, and its supreme importance to the general welfare. We do not, of course, refer to ventilation in its broadest scientific sense, such as the securing of an adequate air supply in large auditoriums, for it is a melancholy fact that even our prominent architects not only display a pitiably deficient grasp of that phase of the subject, but of the simple, yet fundamental principles of the science, which every intelligent adult should be familiar with. How many heads of families, for instance, can intelligently

ventilate a sleeping room? It is better to open the window two inches at the bottom, and the same distance at the top, than to have it open for a foot either at the top or bottom only. Considering the length of time that is spent in the sleeping apartment, the paramount importance of a constant supply of fresh air is readily perceived. No matter how perfect digestion and assimilation may be, if the blood is not thoroughly oxygenated, the best of foods fail of their intended effect. Even the least fastidious would object to drinking water that had been used for washing purposes by others; yet it is quite as objectionable to breathe air that is charged with the waste products of bodies that may even be diseased.

Better let in cold air and put on more bedclothes, as long as you do not sleep in a draught.

Oxygen keeps up the animal heat of the body, and you can really keep warmer in a room with plenty of fresh air than in a close room where the air is vitiated.

But in the sick room fresh air is of paramount importance, not only for the patient, but for the attendants, who are otherwise com-

pelled to inhale the poisonous exhalations from the diseased body.

Let no consideration blind you, either in sickness or in health, to the imperative necessity of plenty of fresh air.

The next great natural agency, and one to which scant attention is paid, compared with its hygienic importance, is Light, but more especially Sunlight.

Sunlight is the great health-giving agent. The sun is the great source of life. Its rays stimulate the growth of every living organism, and there is no doubt but they exert a chemical action upon living tissue with which we are as yet but imperfectly acquainted. This fact has been recognized of late years, hence our winter resorts are liberally supplied with sun parlors, in which those in quest of health may enjoy the rejuvenating effect of solar heat without exposing themselves to the inclemency of wintry weather. This is a revival of an old Roman custom, for the more opulent of that nation had sun baths on the roofs of their dwellings. Sunshine is as necessary to robust, vigorous health as either air or water. Then seize the full en-

joyment of it whenever opportunity offers! It is a stimulant and tonic that has no superior.

For nervous debility and insomnia the treatment of all others is rest in sunshine. Draw the bed to the window and let the patient lie in the sun for hours. There is no tonic like it—provided the good effects are not neutralized by ill-feeling. To restore a withered arm, a palsied or rheumatic limb, or to bring a case of nervous prostration up speedily, a most efficient part of the treatment would be to expose the limb or the person as many hours to direct sunlight as the day would afford. With weak lungs let the sun fall on the chest for hours. If internal tumor or ulceration is suspected, let the sun burn through the bare skin directly on the point of disease for hours daily. There will be no doubt left in the mind that there is a curative power in the chemical rays of the sun.

Women especially need to make systematic trial of the sun's healing and rejuvenating rays. The woman who wants a cheek like a rose should pull her sofa pillows into the window and let the sun blaze first on one cheek and then on the other, and she will gain color warranted not to wash off.

Thus it will be seen that the curative properties of sunlight are in nowise overestimated, but in cases of sickness its beneficial action is purely supplementary. The system must first be thoroughly cleansed by "flushing the colon," then, the ground work of improvement being laid, Fresh Air and Sunlight will prove themselves worthy and efficient colleagues in the task of restoring health.

Singly, each is of intrinsic value, but inadequate to cope with disease single-handed (although they may mitigate it), but combined they form a Trinity so powerful that disease can never successfully oppose them.

PART V.

Exercise.

Motion is life. The health of both body and mind depend upon it. Inaction means stagnation, a condition fatal to health. Hence the necessity of exercise. As before stated, disuse is as fatal to a piece of machinery as excessive use; in fact, it is far more likely to rust out than to wear out. Activity is essential to life and health, and can never be prejudicial, provided that moderation is observed and the muscular system not strained or overworked.

There are thousands of miles of minute tubing in the human body—the arterioles, veins, capillaries and lymphatic vessels. They ramify through every portion of the body tissues, the first carrying the vitalized blood for nourishment of the parts, the second returning the impure blood, charged with the waste of the structures, the third being the intermediate stage

between the first and second, while the fourth and last, the lymphatic vessels, collect the surplus nutrition and return it to the circulation. In addition the lymphatics assist in the conveyance of effete matter. Whenever disease germs are present in the system, they first manifest themselves in the lymph, but this fluid, being densely populated with phagocyctes (white blood corpuscles), the micro-organisms are speedily destroyed, if the body is in a healthy, vigorous condition.

In view of the vital character of the fluids, activity of motion is indispensable for the best performance of their separate functions, and exercise supplies the desired stimulus. Whenever a muscle is contracted the blood is wholly or partially expelled from it proportionately to the force of the contraction, and in its escape it carries with it the waste material; but as soon as the muscle is relaxed fresh blood from the arterial supply re-enters the structure, bearing fresh nutrition.

By a wise provision of Nature, the amount of nutrition supplied is always in excess of the waste products removed; that is, all things

being equal, so that the more exercise a part is subjected to the more nutrition it receives, This explains the unusual development of certain parts of the body which are called into excessive use in certain occupations.

The reason for this is perfectly simple, and may be expressed in two words—unequal nutrition—for the muscles that are unduly exercised appropriate the nutriment that should be equally distributed, so that the neglected muscles become weakened and stiff. Hence, any system of exercises designated to develop the body should be so arranged as to call into play every muscle in the individual, thus insuring harmonious development in every direction.

Muscular activity has a most beneficial effect upon all the vital processes, digestion, assimilation and nutrition. The digestive powers work more briskly to prepare the needed nourishment, and the blood circulates more rapidly to carry the material for repair to the parts that need it, so that by moderate physical exercise, judiciously distributed, the whole body is built up and strengthened, and the result is a suppleness of frame and a clearness of head that makes life indeed worth living.

To the invalid it is, of course, idle to talk of active exercise, but there are certain forms of passive exercise accessible to such people. Massage, for instance, which, judiciously administered, will do for the sick, in a modified degree, what active exercise does for the comparatively well. It will stimulate the circulation in the deeper tissues, and set the various fluids of the body moving in a beneficial manner. There is also a mild form of active exercise which may be practised by those who have the misfortune to be confined to bed, and that is by tensing the muscles; such as clenching the hands and contracting the toes, also by gentle contraction of the arms and legs alternately.

But one of the most important factors in quickening and stimulating the movement of the fluids is exercising the lungs, and that can be accomplished with a fair measure of success even by the bed-ridden. Every time the chest cavity is emptied by the expiration of the breath a partial vacuum is created which exerts a tremendous suction power. It is one of the principal forces concerned in the return of the venous blood to the heart, but it also exerts

a like effect upon the lymphatic current, hence deep breathing is a valuable exercise for those unable to take any other.

In commencing the development of the body by any system of physical culture, the first and most important thing to do is to develop the lungs. Good lungs and good digestion go together. Before food can be assimilated it must undergo oxygenation, which is neither more nor less than chemical combustion. For this oxygen is necessary, which, uniting with the carbon of the food, results in oxidation, and as the amount of oxygen inhaled depends upon the capacity of the lungs, it will readily be seen how much depends upon those organs. We cannot inhale too much oxygen, while we can take too much food; therefore, the greater the lung capacity the better the digestion.

How to Exercise the Lungs.

1. When in the open air, walk erect, head up, chin drawn in, shoulders thrown back, thoroughly inflate the lungs and retain the air for a second or two, then expel it gently. Prac-

tice this several times a day, and if your employment keeps you in, make time and go out.

2. The first thing in the morning and the last thing at night, when you have nothing on but your underclothing, stand with your back against the wall and fill the lungs to their ut-

Fig. 1.

most capacity, then—retaining the breath—gently tap the chest all over with the open hand. Do this regularly every morning and night, gently at first, but gradually increasing in the length of time for holding the breath and the force of the blows as the lungs grow stronger.

3. Stand upright, heels touching, toes

turned out. Place the hands on the hips as in Fig. 1, the fingers resting on the diaphragm, the thumbs in the soft part of the back. Now, inflate the lungs and force the air down into the lower back part of the lungs, forcing out the thumbs. Do this half a dozen times at first, gradually increasing the number. Women seldom use this part of the lungs—tight dresses and corsets prevent them.

4. While in the same position, fill the upper part of the lungs full, then force the air down into the lower part of the lungs and back again by alternately contracting the upper and lower muscles of the chest. Do this repeatedly, for, besides being a good lung developer, it is an excellent exercise for the liver.

5. Stand erect, as in Fig. 2, the arms hanging close by the sides, then slowly raise the arms until they are in the same position as Fig. 2, at the same time gradually taking in a full breath until the lungs are completely filled, then, after holding the breath for a few seconds, gradually lower the arms, at the same time gradually expelling the breath. After doing this a few times—while the lungs are

full—raise and lower the arms several times quickly.

6. Hold the arms straight out (see dotted lines in Fig. 2), then slowly throw them back

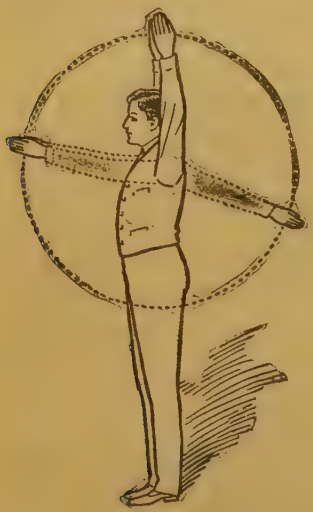


Fig. 2.

Fig. 3.

behind you as far as possible, at the same time taking a full breath, then bring them slowly back to the front, as at first, expelling the breath while doing so. Do this several times, then fully inflate the lungs, and while hold-

ing the breath move the arms backward and forward, in the same way, but quickly. It is important to inflate and empty the lungs fully and completely during this exercise.

Combination Lung and Muscle Exercises.

7. First rotate the right arm in a circle, as in dotted lines in Fig. 2, downward in front of you a few times, then reverse the movement. Next, thrust the shoulder back as far as it will go and rotate the arm in the same manner. Follow with the left arm in the same manner, then both alternately, but at the same time relax the arms completely, allowing them to become perfectly limp, at the same time filling and emptying the lungs completely.

8. Lie flat on the floor, face downward, with the elbows bent and the palms of the hands flat on the floor by the sides, body fully extended. Then, keeping the body perfectly rigid, raise it up by the muscles of the arms alone, until it only rests on the arms and toes, then lower the body gradually until the chest touches the floor, at the same time exercising

the lungs to their fullest extent. This may be practiced on a bed or couch to commence with, and should be taken slowly at first, until it can be done half a dozen times without discomfort.

9. Stand as in Fig. 3, fill the lungs com-

Fig. 4.

pletely and force the air down into the lower part of the lungs, as in Exercise 3. Then, keeping the lower limbs perfectly stiff, with muscles tensed, bend the body forward from the middle of the trunk (see dotted lines in Fig. 3, in front), and while doing this empty the lungs quickly. Then straighten up again,

at the same time filling the lungs. This should be repeated from 6 to 12 times. Then repeat the operation, but bending backward instead of forward, paying careful attention to the emptying and filling of the lungs. Then, with the lungs full and breath retained, move the body backward and forward quickly several times.

10. Retaining the same position as in last exercise, move the upper part of the body to the right a few times, then a few times to the left, after each movement returning to the upright position. Then move in the same manner from right to left, alternately. By referring to Fig. 4, you will readily understand the nature of these movements, which not only benefit the lungs, but impart grace and suppleness to the body.

11. Still retaining the attitude as shown in Fig. 4, press the arms and elbows forward as far as possible, at the same time expelling the breath; then press them backward as far as it is possible to force them, at the same time inflating the lungs to their fullest extent.

Arm and Finger Exercises.

Completely relax the muscles of the fingers and hands, letting the hands hang limply from the wrists, then shake them up and down from side to side, as if cracking a whip. Then rotate them from the wrists, as shown in Fig. 5.

Fig. 5.

These movements should all be made with great rapidity, the hands being rendered as near lifeless as possible.

Next, with the upper part of the arm held out at a right angle fr[illegible]n the body, and the forearm hanging downward, completely relax the muscles of the elbow. Then shake and ro-

tate the whole of the forearm in the same manner as described for the hands.

Shoulder and Arm Exercises.

Allow the arms to hang by the side, now press the shoulder as far back as it will go, then as high as it will go, then forward as

FIG. 6.

FIG. 7.

FIG. 8.

far as it will go, and drop it again, then rotate it several times. Do the same with the left, then both together. Strike out with the right hand, tightly clenched, then the left, then both together. Repeat horizontally, right and left, then straight up overhead, then down by the sides.

Exercises for the Neck.

14. If Figures 6, 7 and 8 are carefully studied, no explanation will be needed. The principal thing to be observed is to keep the body perfectly rigid and use the muscles of the neck only. It is a most valuable exercise and should be carefully and faithfully practiced.

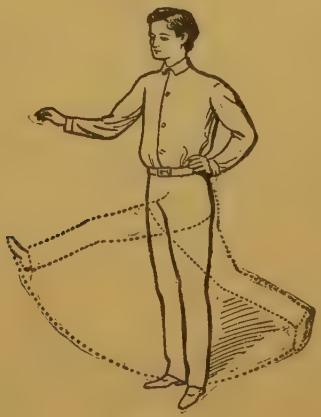


Fig. 9.

Hip and Leg Exercises.

15. Assume the position indicated in Fig. 4, but keep all the muscles of the body (with

the exception of the muscles of the hips) perfectly rigid. Now, without bending the knees, bend the body forward as far as you can several times, then backward several times, then to each side successively. Make the bending movements several times in each direction, and be careful not to relax the muscles other than those of the hips; and to conclude the exercise rotate the hips round and round.

16. Relax the muscles of the right leg, keeping all the other muscles firmly tensed. Then swing the leg from the hip joint, like a pendulum, backward and forward, as shown in Fig. 9. Try to do this without support, balanced on the one leg, as it materially assists in developing the muscles. Then repeat with the left leg. Next, relax the muscles of the leg from the knee downward, keeping the muscles of the thigh rigid, and swing the leg backward and forward from the knee only (see dotted lines in Fig. 10), and increase the number of movements each day, as the muscles gain strength and you gain experience.

Figures 11 and 12 illustrate some excellent leg exercises, which bring into play certain

FIG. 10.

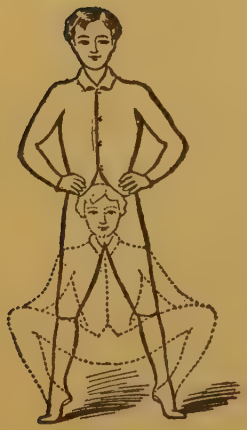


FIG. 11.

FIG. 12.

muscles which usually receive but little exercise, and may be practiced with great advantage.

Ankle and Foot Exercises.

17. Stand upright, holding yourself firmly and stiffly, then raise yourself up and down on your toes.

Whole Body Exercises.

1. Raise the arms above the head, alongside the ears, then bring them down with a steady sweep, without bending the knees, until the fingers touch the floor. Be sure to relax the muscles of the neck and allow the head to hang.

2. Place the hands upon the breast and drop the head backward, a little to one side, then bend the body backward as far as possible.

3. Curve the right arm above the head, toward the left shoulder, and allow the weight of the body to rest on the left leg, the right foot being carried slightly outward. Allow the body to hang down as far as possible on the left side, without straining too much. Then reverse the movement. (See Fig. 13.)

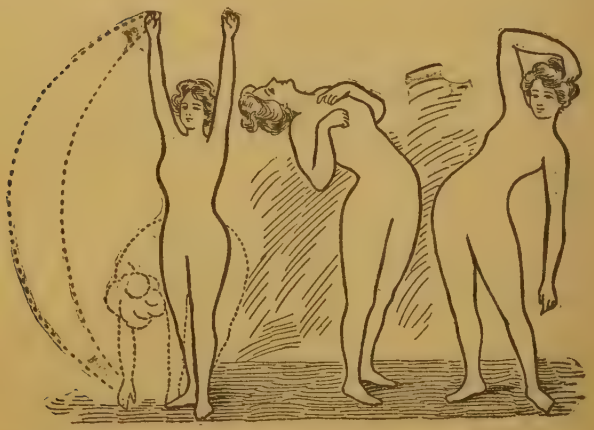


FIG. 13.

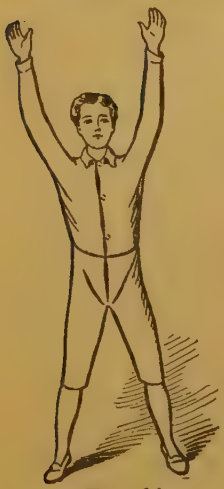


FIG. 14.

Stretching

Is quite a luxury, but few people know how to do it.

Stand in the position indicated in Fig. 14. Then raise yourself on the tips of your toes and try your best to touch the ceiling. You will appreciate this exercise as a relaxation.

The Art of Standing Properly.

Is only imperfectly understood by the majority of people, and yet it is the key to a graceful carriage, an accomplishment that

Fig. 15.

Fig. 16.

Fig. 17.

most people desire to possess, especially ladies. Figures 15 and 16 will serve to illustrate what is necessary to acquire this art and to empha-

size the difference between the correct and the incorrect methods.

In the foregoing list of exercises we have carefully omitted all those requiring apparatus of any kind, selecting only such as can be practiced in the privacy of your own room, without assistance from an instructor or paraphernalia of any kind. Dumb bells, Indian clubs, etc., are valuable after a certain degree of muscular improvement has been attained, but when that point is reached we should advise the individual to join a gymnasium and practice further development under a competent instructor.

All the exercises given have been proved of great value in building up the system, and are designed as aids to the preservation of health and the upbuilding of weakly people—not to develop trained athletes. These exercises bring into play a number of muscles that are not called into general use, and thus promote harmonious development of the whole body.

PART VI.

The Diet Question.

As we have already stated, the human system is in a state of constant change. Disintegration of tissue is taking place during every moment of existence, and the preservation of health depends upon the prompt elimination of waste material. But the destruction of tissue, due to the daily friction of life, must be made good, and this replacement of substance is effected by the food we eat. It becomes a matter of individual importance, therefore, to every individual to consider the question of eating from the rational standpoint.

It is a grave mistake to suppose that it is necessary to eat a large quantity of food to become healthy and strong. The system only needs sufficient nourishment to repair the waste that has taken place. Besides, the digestive fluids are not secreted in an indefinite quan-

tity, but in proportion to the immediate need. Hence, food taken in excess of requirements, being only partially digested, acts as a foreign substance; *i. e.,* a poison, and in addition unduly taxes the system to dispose of the unnecessary waste.

Instead of "eating to live," a large proportion of people simply "live to eat." But sooner or later Nature exacts the penalty for violation of one of her cardinal laws, which is "temperance." An outraged stomach will not always remain quiescent, and when the reaction comes, the offender realizes that "they who sow the wind shall reap the whirlwind."

But people may, and do, continually do violence to the stomach, without being gluttons—we refer to the habit, so universally practiced in this country, of bolting the food without properly masticating it. So long as this iniquitous practice is persisted in, and the equally hurtful one of swallowing large quantities of liquids with the meals, and so long as sufficient time is not given the food to digest, just so long will you suffer from a disordered stomach.. It is a fact that the average

American considers eating an unprofitable interference with his business, without stopping to weigh the advantages of sound health against the almighty dollar.

Strange, is it not, that a race, proverbial for having an eye to the main chance, should fail to recognize the financial wisdom of husbanding their health, a factor so important in successful business enterprises! They might, with advantage, copy the example of John Bull in the matter of eating.

The average Englishman regards his meals as a solemn responsibility, and tarries long at the table. The consequence is that with them dyspepsia is the exception and not, as with Americans, the rule.

What to eat, when to eat and how to eat are questions more nearly involving the health and happiness of humanity than is generally recognized.

What to Eat.

From the days of Pythagoras down to the present time it has been a moot question whether a vegetable or meat diet was best for

man. Each side can present equally strong arguments; each can point to exceptional instances of physical development under the different methods; each can point to ill results that follow rigid adherence to one method or the other, so that the natural inference would be that a happy mean between the two extremes presents the only rational solution of the question.

Even the most rabid partisan of the meat diet will readily admit that the flesh of animals is not indispensable to existence; while, on the other hand, the fact that the Indians in this country would subsist for months (without apparent discomfort) solely upon a diet of "pemmican" (dried buffalo flesh) affords ample proof that a meat diet is not without its advantages.

Diet it largely a matter of latitude. The whale blubber diet of the Esquimaux would be impossible at the equator, while the fruit and pulse diet of the tropics would prove totally inadequate to support life at the North Pole. Nature always prompts the individual to select the articles of food best adapted to

his bodily needs, according to the climatic conditions; hence, when a man endeavors to live on the same dietary in the tropics that he has been accustomed to in the temperate zone, digestive disturbances are sure to follow.

The writer does not claim to be an expert dietitian, but there are few spots on the habitable globe that he has not visited; scarcely an edible article that he has not partaken of; scarcely a known species of human being that he has not eaten with, except the Patagonians and the Esquimaux; so that he is not entirely without experience, and it may be just possible that practical experience thus gained may be as valuable as statistics compiled in an office from data collected from different sources.

We often have the Eastern peoples (notably the Japanese and Hindoos) quoted as examples of physical health and endurance, and the adoption of a vegetarian diet urged on those grounds; but these extremists seem to lose sight of the fact that these peoples are the descendants of vegetarians for centuries past; that they have inherited the tastes of their progenitors, and have evolved their present phy-

sical condition through a long period of development along those lines. To say nothing of the impracticability of suddenly converting a nation to the principles of vegetarianism, radical changes abruptly undertaken are always productive of ill effects.

It will help us to a proper understanding of the food question to consider right here what causes old age, or, rather, the physical signs of bodily infirmity that almost invariable accompanies it. We are all familiar with the wrinkled body surface, the shrunken limbs and the stiffness of joints that particularly affect the aged, and are so accustomed to regard these outward manifestations of infirmity as inevitable, that few stop to inquire whether it is natural that this should be so. Undoubtedly, these are natural effects, being the result of the operation of natura law, but if mankind lived more in harmoney with Nature, these symptoms should not manifest themselves before the age of ninety or a hundred, if even then.

What is termed old age is simply ossification (solidification of the tissues), and this is due to the constant deposition in the system of

earthy substances. The result of these deposits bing retained in the system is: that there is an excess of mineral matter in the bone tissue, which renders it brittle, and accounts for the susceptibility to fracture in advanced life; it causes a change in the structure of all the blood vessels, great and small, thickening their walls and thus reducing their calibre and also rendering them brittle. With diminished capacity the blood vessels fail to convey the requisite nutrition to the tissues, and a general lowering of the vitality follows. The capillaries no longer supply the skin with its needed pabulum, hence it loses its elasticity and color—grows yellow and forms in furrows. The circulations being sluggish, the deposition of these earthy substances in the neighborhood of the various joints and the muscular structures is facilitated, and we have the stiffness of joints and muscular pains that usually accompany age. The supply of bood to the brain and nerve substance is curtailed in the same manner, and for lack of sustenance these structures commence to decay, which accounts for diminished mental activity and sensory impressions. As the pro-

cess continues there may be almost complete obliteration of the capillaries, while the larger vessels may become so thickened that their capacity is sometimes reduced three-fifths. Then comes death.

Then, since old age is due to the cause just described, it follows, as a perfectly logical deduction, that if we can prevent the introduction of these substances into the system, or even check them, then the duration of life and preservation of function should be proportionately prolonged.

What are these substances and whence are they obtained? They consist of carbonate and phosphate of lime, principally, with small quantities of the sulphates of lime and magnesia, and a small percentage of other earthy matters. These substances are taken into the system in the food we eat and the water we drink, and it has been estimated that enough lime salts are taken into the system during an average lifetime to form a statue the size of the individual. Of course, the greater part is eliminated by the natural processes, but enough is retained to make ossification a formidable fact.

So great is the proportion of mineral substance taken into the system in drinking water that it is safe to assert that, if after maturity was reached, only distilled or other absolutely pure water was partaken of, life would be prolonged fully ten years. Up to the mature age it would be inadvisable, as the salts are necessary for bone formation. Good filtered rain water, or melted snow, are entirely free from mineral deposits, but if they have stood for any length of time it is advisable to boil them before using, to destroy any organic matter.

But it is not in water alone that these pernicious earthy matters are found. All food substances contain them to a greater or lesser extent. The order in which foods stand in the matter of freedom from earthy impurities is as follows: Fruits, fish, animal flesh (including eggs), vegetables, cereals; so that the advocates of a strictly vegetable diet find themselves confronted by the formidable fact that their mainstay is that class of foods that contain the largest proportion of those substances that hasten ossification. Ample proof is at hand that a strictly vegetable diet results in

what is known as atheroma (chalky deposit), an affection of the arteries. Dr. Winckler, an enthusiastic food reformer, who wrote extensively on the subject under the nom de plume of Dr. Alanus, and practised a strict vegetarian diet for some years, was compelled to abandon it, on account of the above disease manifesting itself. Numerous similar cases were observed by Raymond, in a monastery of vegetarian friars, and among the poorer Hindoos, who live almost exclusively on rice, this trouble is of frequent occurrence.

The reason of this is obvious. Vegetable food is richer in mineral salts than animal food, and consequently, more are introduced into the blood. There are exceptions, for instance, fruits, which are an ideal food, for several excellent reasons. To commence with, they contain less earthy matter than any other known organic substance; they contain upward of 70 per cent. of the purest kind of distilled water—distilled in Nature's laboratory; and distilled water is an admirable solvent, and is ready for immediate absorption into the blood, and, lastly, the starch of the fruit has, by the

sun's action, been converted into glucose, and is practically ready for assimilation. In point of nutritive value, fruits may be classed in order as follows: Dates, figs, bananas, prunes, apples, grapes.

Bread has long been known as the "staff of life," and although it forms the main dietary staple for large numbers of people, that does not in any way prove its eligibility as an article of food. We have seen that cereals contain a very large proportion of inorganic matter (the mineral salts), and wheat is as richly endowed in this respect as any of its fellows. Wheat is rich in heat-producing qualities, which is due to the quantity of starch it contains. Now, this starch must be converted into glucose before the system can appropriate it, and as exhaustive experiments have shown that not more than four per cent. of the starch is converted by the ptyalin in the saliva, the principal work of dealing with the starch devolves upon the duodenum, or second stomach, the fluids of the main stomach having no action upon it.

Now, this extra and unnecessary work fall-

ing upon the duodenum entails a delay in the process of digestion, and a corresponding delay in assimilation, so a habit of intestinal inactivity is induced, and the seeds of constipation are sown, because the starchy foods, being slow in giving up their nutritive elements, the refuse is proportionately backward in being eliminated. Fruits, on the contrary, although equally rich in heat producing qualities, yet on account of the previous natural transmutation of starch into glucose, are in a condition for immediate appropriation by the system, and consequently absorption of nutrition and elimination of waste are equally prompt. This partially explains the aperient action of fruits, although there is a chemical reason also. For the reasons above stated, lightly baked bread should never be eaten; it should be toasted thoroughly brown first, by which the first step in the conversion of the starch is accomplished.

Nuts are an excellent article of diet, as they contain a large percentage of proteid (muscle-forming) substance, and fats—both in a state of almost absolute purity, but are somewhat deficient in starch. To those who feel that they

really cannot do without meat, nuts certainly offer the best substitute. There are preparations of nuts on the markets now, called nut-meats, but our advice would be, to eat all nuts without preparation, only being careful to masticate them thoroughly. The peanut is the first in rank for nutritive value, next comes the chestnut, and thrid, the walnut.

Our objection to nut-meats applies to all forms of concentrated foods, that is, that they do not give the digestive functions the proper amount of exercise. They do not afford sufficient opportunity for mastication, hence the food is not properly insalivated. And, again, in normal conditions, Nature demands a certain amount of bulk, that the digestive organs may have something to contract upon. It is the nature of the muscular structures to grow if exercised, and there is no reason to doubt that the stomach and intestinal muscles respond to this stimulus. Bulk is especially necessary in the intestinal canal, to supply a certain amount of irritative stimulation, for the purpose of exciting peristalsis. That is one reason why whole wheat bread is preferable to

white, on account of the bran, which not only supplies the bulk, but favors elimination by its irritative action.

Before proceeding any further we would call attention to the following table, showing the nutritive ingredients in food substances, and their several functions. The ingredients are classified in four divisions: 1, Proteids; 2, Fats; 3, Starches, or carbo-hydrates; 4, Mineral matters. This is the main classification; but to enable it to be better understood, we subdivide it as follows:

Protein.	a. Albuminoids: e. g. albumen (white of egg); casein (curd) of milk; myosin, the basis of muscle (lean meat); gluten of wheat, etc. b. Gelatinoids: e. g. collagen of tendons; ossein of bones, which yield gelatin or glue. (Meats and fish contain very small quantities of so-called "extractives." They include kreatin and allied compounds, and are the chief ingredients of beef-tea and meat extract. They contain nitrogen, and hence are commonly classed with protein.)
Fats.	e. g. fat of meat; fat (butter) of milk; olive oil; oil of corn, wheat, etc.
Carbohydrates.	e. g. sugar, starch, cellulose (woody fibre).
Mineral Matters.	e. g. calcium phosphate or phosphate of lime; sodium chloride (common salt).

In this classification, water is not taken into

account, for the reason that it is not a true nutrient, although of vital importance to the body. Now, let us consider what ultimately becomes of these substances—how Nature utilizes them in the physical economy. Protein is used to build up the solid tissues of the body, the muscles and tendons. It is also a source of nutrition for brain and nerve substance, and partially serves as fuel. Fats simply form fatty tissue and serve as fuel to maintain the heat of the body, by combustion or oxidation. Carbo-hydrates mainly serve as fuel, owing to the large percentage of carbon they contain, which readily unites with the oxygen. The mineral matters, which are also largely obtained from water, are employed in the formation of bone, and are also utilized in the blood and in other ways.

Thus we see that each constituent of the food substance fulfills a specific purpose, and the secret of a correct and nutritious diet lies in the selection of such foods as will furnish the proper proportion of each constituent to serve the purpose for which it is designed. Any deviation from this rule must of neces-

sity result in digestive disturbance, more or less, and although one or two digressions from the path of correct alimentation may not result in anything worse than a slight inconvenience, yet persistence in dietetic errors will inevitably terminate in physical demoralization.

Authorities differ as to the actual proportion the nutritive ingredients should bear to each other in the daily ration; but after comparing the statements advanced by different food experts, we think the following figures will represent a fair average of the various tables. The reader will see that 100 parts of carbo-hydrates is taken as the basis of calculation, the figures opposite the other ingredients representing the proportion they should bear to the basic figure.

Carbo-hydrates (carbonaceous material, starch, sugar, etc.), fat, and heat formers	100 parts
Proteids (nitrogeneous material), muscle, tissue and brain formers	40 "
Fats (animal fats, butter, etc.), fuel formers	32 "
Mineral salts	6 "
Water	670 "

With the above table in mind, it will be easy to select foods that will furnish, when com-

bined, the proper proportion of each ingredient —that is—approximately, and to assist in the selection, we subjoin a condensed list of the more important articles of food, showing the percentage of each ingredient, as proved by analysis. We would call attention to the fact that animal foods may slightly differ in the ratio of the ingredients, owing to the food upon which the animal has been raised, and its physical condition; and, owing to peculiarities of soil, vegetable foods may differ in like manner, but for practical purposes it will be found sufficiently correct.

In 100 Parts.

	Proteids.	Starches.	Fats.	Salts.
Lean Beef	20.2	0.0	3.6	2.0
Fat	16.9	0.0	20.0	3.1
Mutton	17.1	0.0	5.7	1.3
Veal	18.8	0.0	4.4	0.5
Pork	14.5	0.0	37.3	0.8
Poultry	21.0	0.0	3.8	1.2
Smoked Ham	24.0	0.0	36.5	10.1
Mackerel	23.5	0.0	6.7	1.0
Cod	27.0	0.0	0.3	22.0
White of Egg	20.4	0.0	0.0	1.6
Yolk of Egg	16.0	0.0	30.7	1.3
Cow's Milk	4.2	4.5	3.7	0.7
Cheese	28.0	1.0	23.0	7.0
Butter	2.0	1.0	85.0	1.0
Cabbage	5.0	7.8	0.5	1.2
Asparagus	1.9	2.7	0.2	0.5

	Proteids.	Starches.	Fats.	Sugar.
Mushrooms	2.5	4.7	0.2	0.7
Potato	2.2	21.8	0.2	1.0
Sweet Potato	1.0	25.2	0.2	2.7
Celery	1.5	0.8	0.4	0.8
French Beans	23.7	55.6	2.2	3.7
Lima Beans	21.9	60.0	1.9	2.9
Green Peas	6.3	12.0	0.5	0.8
Lentils	24.8	54.7	1.8	2.4
Wheat Flour	11.6	71.0	1.3	1.6
Barley Flour	10.5	66.7	2.4	2.6
Oatmeal	12.8	65.6	5.6	3.6
Lentil Flour	25.4	57.3	1.8	2.6
Arrowroot	0.8	83.5	0.0	0.3
Chestnut	14.6	60.0	2.4	3.3
Sweet Almond	23.5	7.8	53.0	3.0
Peanut	28.3	1.8	46.2	3.3
Walunt	15.8	13.0	57.4	2.0
Apple	0.4	7.2	0.0	0.5
Cherry	0.7	10.2	0.0	0.7
Grape	0.6	14.2	0.0	0.5
Banana	4.9	19.2	0.6	1.1
Dates	6.6	54.0	0.2	1.6
Figs	6.1	60.5	0.9	2.3
Honey	0.8	74.6	0.9	0.2

Since the elements are seldom, if ever, found in the proper proportion in any food substances, it becomes necessary to exercise judgment in selecting them, so that something like a well-balanced diet may be obtained; so as a further aid to enable the reader to make his selection judiciously, we would call attention to Table A on page 129 and Table B on page 130. Table A shows the proportion of various foods that is ordinarily digested, while Table B

points out the time required for different articles of food to digest.

TABLE A.

Showing the relative digestibility of various foods.

	Protein		Fats		Carbo-hydrates		Mineral Matters	Water
	Digestible	Undigestible	Digestible	Undigestible	Digestible	Undigestible		
	%	%	%	%	%	%	%	%
Beef, round	23.0	0.0	8.1	0.9	0.0	0.0	1.3	66.7
Beef, sirloin	20.0	0.0	17.1	1.9	0.0	0.0	1.0	60.0
Pork, very fat	3 0	0.0	74.5	6.0	....	....	6.5	10.0
Haddock	17.1	0.0	0.3	....	0.0	0.0	1.2	81.4
Mackerel	18.8	0.0	7.4	0.8	0.0	0.0	1.4	71.6
Hen's eggs	13.4	0.0	9.4	2.4	0.7	0.0	1.0	73.1
Cow's milk	3.4	0.0	3.6	0.1	4.8	0.0	0.7	87.4
Cheese, whole milk	27.1	0.0	34.6	0.9	2.3	0.0	3.9	31.2
Butter	1.0	....	85.8	1.7	0.5	....	2.0	9.0
Oleomargarine	0.4	....	83.9	3.3	0.0	....	2.1	10.3
Sugar	0.3	....	....	....	96.7	0.0	0.8	2.2
Wheat flour, very fine	7.6	1.3	1.0	....	74.4	0.8	0.3	14.6
Wheat flour, medium	9.5	2.1	0.8	....	70.4	1.8	0.4	15.0
Wheat flour, coarse whole wheat	8.2	2.7	1.8	....	66.4	5.3	1.2	14.4
Wheat bread average	7.7	1.2	1.9	....	54.9	0.6	1.0	33.7
Black bread	4.5	1.6	1.8	....	43.3	5.3	1.5	43.8
Peas	19.7	3.2	....	....	55.7	2.1	2.5	15.0
Corn (maize) meal	7.9	1.2	3.8	....	68.7	2.3	1.6	14.5
Rice	6.2	1.2	0.4	....	78.7	0.7	0.4	12.4
Potatoes	1.5	0.5	0.2	....	19.7	1.6	1.0	75.5
Turnips	0.7	0.3	0.2	....	5.6	1.3	0.7	91.2

TABLE B.

LENGTH OF TIME REQUIRED FOR DIGESTION OF DIFFERENT ARTICLES OF FOOD.

	Hours.
Apples, raw	2:00
Barley, boiled	2:00
Beef, roasted	3:00
Beefsteak, broiled	3:00
Beef, boiled	4:00
Beets, boiled	3:45
Brains, animal, boiled	1:45
Bread, corn, baked	3:15
Bread, wheat, baked	3:30
Butter, melted	3:30
Cabbage, raw	2:30
Cabbage, with vinegar	2:00
Cabbage, boiled	4:30
Cake, corn, baked	3:00
Cake, sponge, baked	2:30
Catfish, fried	3:30
Cheese, old, strong	3:30
Chicken, fricasseed	2:45
Corn and beans, boiled	3:45
Custard, baked	2:45
Duck, roasted	4:00
Dumpling, apple, boiled	3:00
Eggs, hard boiled	3:30
Eggs, soft boiled	3:00
Eggs, fried	3:30
Eggs, roasted	2:15
Eggs, raw	2:00
Fowls, boiled	4:00
Fowls, roasted	4:00
Goose, roasted	2:30
Lamb, boiled	2:30
Milk, boiled	2:00
Milk, raw	2:15
Mutton, roasted	3:15
Mutton, broiled	3:00
Mutton, boiled	3:00
Oysters, raw	2:55

	Hours.
Oysters, roasted	3:15
Oysters, stewed	3:30
Pig, roasted	2:30
Pigs' feet, soused	1:00
Pork, roasted	5:15
Pork, salted and fried	4:15
Potatoes, Irish, boiled	3:30
Potatos, Irish, roasted	2:30
Rice, boiled	1:00
Salmon, salted	4:00
Soup, barley, boiled	1:30
Soup, bean	3:30
Soup, chicken	3:00
Soup, mutton	3:30
Soup, oyster	3:30
Tapioca, boiled	2:00
Tripe, soused	1:00
Trout, salmon, boiled	1:30
Trout, salmon, fried	1:30
Turkey, roast	2:30
Turkey, boiled	2:30
Turnips, boiled	3:30
Veal, broiled	4:00
Veal, fried	4:30
Vegetables and meat hashed	2:30
Venison steak	1:35

We have seen that certain elements are necessary in our food for the proper replenishment of the waste that is perpetually going on, and that they must be combined in proper proportions, so that no one part of the body shall be over-nourished at the expense of the others—no organ overtaxed, but that all may be harmoniously developed.

Opinions may, and do, vary as to the source

from which this sustenance for the body should be obtained—whether from the animal or vegetable kingdoms, or both, and while admitting that vegetarianism and flesh-eating both have their advantages and disadvantages, our own conscientious conviction is, that the true solution of the question is to be found in the happy medium—that a mixed diet is the best for mankind under existing conditions.

The main argument of our vegetarian friends against the practice of flesh-eating is the humanitarian one. We are familiar with all the objections urged—the brutalizing effect upon the human mind of so much ruthless blood-shed—of the sacredness of life, and of man's presumption in daring to deprive a living creature of existence; but with all due respect to the sensibilities of these worthy people, we are inclined to think that the argument is scarcely tenable. We do not wish to be understood defending the cruelties that are said to be practised in the abattoirs; but the taking of life is inseparable from existence. It is simply a question of degree. There is a sect in India, the members of which are so scrupu-

lous regarding the sanctity of life that they carefully brush every step of the path in front of them, lest they should inadvertently step upon any creeping thing. In this, they lift the burden of responsibility from themselves for any wanton injury; but the microscope has shown us that there is a countless world of infinitesimal life all around us, and that it is practically impossible to draw a breath, or drink a mouthful of water, without destroying some living thing. If we accept the teaching of the Scriptures, that not a sparrow falls to the ground without the knowledge of the Creator, then we must conclude that the life of the ant is of as much importance in His eyes as that of the ox or sheep. We repeat, we are not posing as advocates of indiscriminate and wanton slaughter, but on utilitarian grounds, we consider the use of the flesh of animals, as a food, justifiable.

If we needed any scriptural authority for the practice, we could point to the Hebrews, who (according to Holy Writ) received through Moses not only permission to use meat as an article of diet, but instructions for the

killing of the selected animals, together with injuctions to avoid the flesh of certain kinds; and they may be cited as a striking example of the value of a mixed diet.

Here we have one of the most ancient races of the earth—a race that has endured the most terrible persecutions that ever befell a people, yet have survived it all, and are to-day a robust and unusually prolific race; while intellectually and morally they are surpassed by none. They are a greater power in the world than any other race, by reason of their skill in finance and natural business instincts. There is no question but that the sanitary system of living established by Moses, has been the principle factor in perpetuating this hardy race; and a mixed diet was and is an integral part of that system.

However, we have no desire to impose our views upon our readers, and having given expression to our sentiments, we return to the main question.

Having disposed of the question, "what to eat," we will consider another matter, almost equally important, and that is:

How to Eat.

The one fundamental principle underlying this question is thorough mastication, and we cannot too strongly impress upon our readers the necessity for its proper observance. We have already stated that digestion commences in the mouth—that by the action of the saliva, the starchy matter in food is converted into glucose. It is therefore necessary that the saliva should be brought into intimate contact with every part of the bolus; and for that purpose thorough mastication is absolutely necessary. In addition, the separation of the food into small fragments, by the teeth, assists stomach digestion, by permitting the gastric juice freer access to the food.

Drinking at meals should be avoided as much as possible. The philosophy of this is apparent, when we reflect that most digestive disturbances are accompanied by imperfect secretion of the gastric juices, and to dilute them with an excess of fluid is to weaken its power of action on the food.

But the most pernicious practice of all is

that of drinking iced water at meals, since, in addition to the ill effects described above, it temporarily paralyzes the stomach—driving the blood away from that organ when it is needed most of all. A fact which should not be lost sight of is, that no physical operation, however slight, can be accomplished without the expenditure of force (nervous energy), even though it be only the winking of an eyelid; and the labor entailed upon the system, of raising the temperature of the stomach to normal figures, after deluging it with ice water, involves a ruinous waste of vital force, in addition to the other reasons urged against it. It cannot be doubted that this essentially American habit is responsible for a large proportion of the dyspepsia that sits like an incubus upon the nation.

All condiments promote indigestion. They overstimulate the stomach, exciting the secreting glands to abnormal action, and irritating the sensitive mucous surface.

When to Eat.

For people in health, we strongly advise the three meals a day system, which experience has shown to be successful. They should be moderate in quantity, and should be eaten as follows: The first, from half an hour to an hour after rising (having previously bathed and exercised), the second, not less than four hours afterwards; the third, not less than five hours later.

This gives the stomach time to rid itself of one meal before the next is introduced, otherwise the undigested food remaining in the stomach prevents that organ from acting properly on the fresh food. It is for this reason that it is unwise to eat between meals, as, when the stomach is occupied by articles of food in various stages of digestion, undigested portions will pass out with the digested food; not only entailing a serious loss of energy and nutrition, but irritating the intestinal canal and creating unnecessary waste to be eliminated.

The above rules, as stated, apply to people in ordinarily good health. In wasting disease

it may be necessary to supply nutrition even as often as every half hour: and in all serious digestive troubles it is wiser to eat six times a day than three, the meals to be light, nutritious in quality, and small in quantity, so as not to impose too great a burden at one time on the weakened digestive apparatus.

We will now consider the action of several substances, in common use, that are inimical to health, and that have an especially demoralizing effect upon digestion.

The first of these is alcohol, which only serves as fuel, but does not form tissue. Its best friends in the medical profession no longer claim anything for it but a stimulating effect. Its action on the digestive organs (especially the stomach) is disastrous in the extreme. It destroys the appetite, although it temporarily sustains vigor by unatural excitation.

The man who is addicted to the excessive use of alcoholic stimulants is over-taxing the vital organs of his body in the most outrageous manner, and although Nature incessantly enters protest against being overworked, he either ignorantly fails to recognize its warnings, or

wantonly disregards them. Let us for a few moments consider the work which the heart is called upon to do, and the amount of extra labor imposed upon it by the unwise use of alcohol. The average life of a man is thirty-eight years, and, in a healthy man, the number of heart-beats per minute is seventy, or during an average life, 76,536,740,000. Now, the use of alcohol in anything like an excessive quantity increases the action of the heart ten beats per minute, making 600 extra beats per hour, 14,400 per day, 482,000 per month, 9,784,000 per year, 195,568,000 in twenty years, and 372,793,000 in a lifetime of thirty-eight years. Or, supposing a man should live fifty years, the number of pulsations of the heart during that period, at the normal rate, would be 917,-239,680. Now, if ten extra beats be added to this, for say the last twenty-five years, we find that the heart is called upon to make 91,840,000 extra beats. Think of that enormous amount of additional work imposed upon a delicate, complex piece of mechanism like the human heart!

But that is not the worst of it. The heart

should rest and sleep when we do. During sleep, the character of the beats is different from what it is during our waking hours—the beats are made singly and deliberately, with a pause between, for the heart is taking its necessary rest, to fit it for its functions on the morrow; but, if we take alcohol into the system before retiring, then the heart works harder during sleep than a healthy man's when he is awake.

Tea and coffee are substances which neither form tissue nor serve as fuel, and may be banished from the table with decided advantage. It is true that the consequences of excessive tea drinking are not as severe as those from over-indulgence in ardent spirits, but the pernicious effects of the constant drinking of strong infusions of tea justify us in calling the practice a serious menace to health. Tea leaves contain from 2 to 4 per cent. of caffeine, or theine, which is an alkaloid, and always found in combination with tannin. They also contain a volatile oil, which is the source of the aroma, and in addition possess a sedative quality. Tannin is a powerful astringent, and

hence is strongly provocative of constipation. Its action upon the mucous surface of the stomach is highly detrimental to that organ, as it arrests the excretion of the gastric juice by its contractile effect upon the glands. Its constant use will almost invariably result in digestive disturbances, and will certainly aggravate such troubles, if previously existing. It is true that a cup of hot tea is a refreshing beverage, but not more so than a cup of hot milk—in fact, it is the heat that imparts the sense of comfort experienced on drinking it. Children should never be allowed to drink either tea or coffee, as the seeds of a baneful habit may be sown, for in tea, as in dram drinking, it is a habit easily acquired.

The above remarks apply in a less degree to the frequent use of coffee. The constant use of these substances produce the following results—first, increase of circulation, rise in pulse, a desire to frequently pass urine, and an exhilaration resembling intoxication. Tea tasters, as is well known, are subject to headaches and giddiness, and prone to attacks of paralysis.

General Suggestions.

One of the causes that conduce to digestive disturbances is that of solitary eating. It is a pretty well-known fact that a woman would just as soon not eat at all as to eat alone, and as a result frequently deprives herself of the necessary amount of nutrition. In fact, she impairs her digestion by not giving it sufficient work to do, while the man ruins his by spasmodically overtaxing it. For the above reasons, companionship at meals is a most desirable thing, especially if it is congenial, and light, cheerful conversation, with a little hilarity intermingled, is an excellent aid to digestion.

This is, no doubt, due to mental influence. The whole of the alimentary process is under the control of the nervous system, which has its seat in the brain, consequently, a cheerful mental attitude favors digestion. It is well known that a fit of anger may temporarily stop digestion. The mind exerts such a vast influence over every function that it is impossible to set bounds to it. We are the creatures of habit.

We eat so many times a day, from sheer force of habit. We habituate ourselves to partake of articles of food against which, at first, the senses rebel, by the same force; but it is left wholly to man's reasoning powers whether his habits shall be cultivated according to the needs of the system. If they are, perfect nutrition will be established; if they are not, he is worse off than the animal who knows only to follow the instincts of the original habits of the species. A man can exercise his will power to partake of a diet which his taste had not been able to appreciate, yet no will power can ever provide good nutrition out of a diet against which taste constantly rebels. Consciousness of the digestive organs is an offense to them. The more a man is conscious of his stomach, the less will be its capacity for performing good service; therefore, a dyspeptic should never attempt to follow a course of experimental dietetics with himself, for if he watches his stomach after his carefully selected meal, to see how it will serve him, he will always find abnormal symptoms.

Active respiration assists all forms of lymph absorption, but gives special aid to the absorp-

tion of food substances from the stomach and intestines, because these particular lymph vessels are situated so close to the chest cavity that they are more directly under the influence of the suction action of the chest.

A few minutes spent in vigorous deep breathing exercises after each meal is one of the best means of remedying the sense of heaviness and weight of which so many complain after eating.

Thus we see that deep breathing, by favoring absorption, promotes the nourishment of the body—will assist in building tissue, in fact. Oxygen is a vital necessity for the body, and it is necessary to absorb a large quantity for the actual needs of the system, while all absorbed over the quantity means added nutrition.

The human body is a wonderfully complex piece of mechanism, and if left to itself or rather to natural guidance, its manifold functions are performed with unfailing regularity; and regularity in function means health—irregularity, disease.

Mark the rhythmic regularity of respiration, or of the heart's contractions! Long con-

tinued regularity begets habit, which is a form of automatism; hence the necessity of regularity in action along fixed lines, and in consonance with physiological law, that good habits only may be formed.

Good habits are absolutely essential to health, which is equivalent to saying that regularity in living is an imperative necessity to that end. Regularity in rising and retiring; regularity in eating and drinking; regularity in exercise, all are equally important.

Not only does this regularity of conduct conduce to the attainment and maintenance of perfect health, but it enables the individual to accomplish more within the limits of the day, partly by economizing time, and partly by the added vigor due to improved health.

First, regularity in the hours of rising and retiring, namely, regulating the minimum period to be devoted to sleep. There is much conflict of opinion as to the amount of sleep necessary for the average adult. We have in mind an old saying which runs as follows: "Six hours' sleep for a man, seven for a woman, and eight for a fool." This is somewhat arbitrary,

and, moreover, is not in harmony with physiological law. In the first place, no hard and fast rule can be laid down that will cover all cases. Apart from the difference of sex, there are temperamental conditions which vary with every case. We are decidedly of the opinion that eight hours' sleep is necessary for the adult individual. It has been affirmed by some authorities that the more the individual sleeps the longer he will live, which is a perfectly rational claim, in view of the fact that night is Nature's repair time, when she is busy at work replacing the ravages committed by wear and tear during the day. It is a well-known fact that nearly all growth takes place during sleep.

Again, it is a fact not generally known that the heart receives no nourishment during the period of contraction, owing to the pressure upon the arteries which supply it with nutriment. It is only during the infinitesimal pause between the contractions that these arteries can carry blood to the heart tissue; hence during sleep the heart-beats differ from those of our waking hours, being fewer in number, and with a more decided pause between. Now, the heart

being to the body what the mainspring is to a watch, the necessity of affording it ample time for recuperation becomes apparent.

Next comes the question of exercise. Too little attention is paid to this matter, more especially by those engaged in sedentary occupations; yet it is in the highest degree important that the balance between the mental and physical energies should be maintained. To preserve this balance while the mind is active and the body untaxed, artificial exercise must be practiced, for physical strength cannot be promoted without some kind of bodily exercise. Unused muscles soon become flabby, as athletes and their trainers well know. The best time for taking exercise is, as stated above, just after the morning bath, and it is astonishing what results can be obtained from fifteen minutes of intelligently directed exercise each morning. Here, again, regularity will work wonders. It may be a week or two before you will notice any marked improvement in the muscular condition, but you will be amply repaid by the glow of health which pervades the system as the result of stimulated circulation.

Last, but by no means least, comes the matter of solicitation of the bowels. In this case regularity in solicitation will invariably produce regularity in movement. The bowels should be solicited every morning, soon after rising, and every night just before retiring. We only wish that we could impress every one of our readers with the importance of this practice, and of the immense benefit of regularity in the pursunace of it. Just as the stomach requires the habit of expecting food when regularly supplied to it at stated intervals, even so will the bowels respond to solicitation if regularity be persisted in.

Nature is inexorably opposed to caprice. She executes all her processes in an orderly manner, and if not interfered with, with the greatest regularity, and if man will only cooperate with her by strict regularity in the important duties previously mentioned, the result will be a surprise to him in the form of renewed health and vigor. He will have an unclouded mind, and be ready to face the trials of everyday existence with a courage that nothing can daunt.

But Nature demands an accurate accounting. Man thinks but little of the drafts he is continually making upon his vitality, but sooner or later the account will be presented, and payment exacted in full. There is no such thing as vicarious payment. The debtor must pay in person, and it therefore behooves every man to watch the debit side of his life's ledger, and make a daily balance of his account with Nature.

PART VII.

Treatment of Disease.

Heart Disease.

There are numerous affections of the heart, divided into two classes—organic and functional, the former being the more serious; but it is safe to say that seventy-five per cent. of cases belong in the latter class. The most common, and at the same time most serious, of the organic troubles, are pericarditis (inflammation of the heart-envelope), and valvular insufficiency (imperfect closure of the valves). The functional disturbances are (almost without exception) due to digestive difficulties and nervousness. In the first class, if the case is well advanced and the patient past the meridian of life, recovery is improbable, although life may be considerably prolonged. The second class of cases may be cured, with reasonable certainty, by removing the cause.

Treatment.

In pericarditis—the symptoms of which are fever and sharp pain under left nipple, radiating to the armpit, use the "Cascade" daily with a small quantity of the Antiseptic Tonic while the condition is acute; the wet sheet should also be employed daily, the temperature varying with the degree of fever. It is usually the sequel of rheumatism. In valvular insufficiency, which is caused by deposits upon the valves of the heart, the symptoms of which are principally difficulty of respiration, not much pain, but a feeling of uneasiness in the heart region, and a peculiar sound termed "the murmur," to be detected by the stethoscope, the use of the "Cascade" will sometimes effect wonders. It arrests all further deposition of impurities in the blood, thus preventing any further accumulation on the valves, while the increased liquidity and purity of the blood enables it to re-absorb the existing deposits and thus restore normal action. Functional difficulties, as stated, chiefly result from digestive troubles, due to fermentation of food in the

stomach and the consequent formation of gas, which frequently collects in large quantities, and by actual pressure impedes the heart's action. The chief symptoms are shortness of breath, palpitation, and great irregularity of the heart's action; sometimes the heart appears to miss a beat altogether. In such cases, a faithful observance of the formula of treatment for dyspepsia (see index) will accomplish surprising results.

Anæmia.

This is a disease of the blood, characterized by a deficiency of the red corpuscles. It is a disease that more frequently affects women than men; the very young and the very old are most subject to it, and especially, if of a nervous, irritable or hysterical disposition. Among the exciting causes are defective hygiene, poor diet, want of, or excessive exercise, grief, or other strong emotions. The symptoms are great pallor, muscular weakness, frequent pulse, dizziness, breathlessness on slight exertion and fainting. There is another

form of this trouble, known as Essential Anæmia, or Progressive Pernicious Anæmia, which almost invariably terminates in death.

TREATMENT.

The condition of the blood must be improved, and as the blood is only formed from the food that is eaten, the importance of getting the digestive function into good working order is apparent. Also to supply those elements to the system that the condition of the blood shows to be necessary, all of which can be furnished in properly selected articles of food. The body must be cleansed internally, by means of the "Cascade" with the Antiseptic Tonic, using it as frequently as the condition of the patient will permit, without unduly taxing the system. The skin should be kept active by frequent warm or tepid baths, followed by gentle friction with a soft towel. A half pint of hot water should be slowly sipped soon after rising, and no nourishment partaken of for at least half an hour. Gentle exercise should be employed, to promote circulation; or if too

weak, substitute massage. Eggs and milk should be freely partaken of. The eggs are preferable raw, beaten in milk, if not, then lightly boiled or poached. Milk should only be taken in quantities of from two to four ounces at a time. Soured milk is particularly good as it tends to prevent intestinal fermentation and thereby promote digestion. Some good preparation of whole wheat should be partaken of once daily for the benefit of the phosphates contained in it, but iron is the element most needed, and this can be obtained in the following articles: first and foremost, spinach, then beets, tomatoes, dark skinned grapes and ditto plums. Lastly, and most important, is the practice of deep breathing to thoroughly oxygenate the blood.

Blood Poisoning.

This may arise from various causes, such as the infection of a wound, contact with some irritating vegetable substance like the poison ivy, or by inhaling noxious gases, or handling certain metals, such as copper and lead; but the

most common cause is the re-absorption into the blood, through the intestinal walls, of the waste products of the system; in fact, it may be confidently asserted that ninety per cent. of such cases are due to this cause. When it is considered that a virulent poison introduced in the rectum has been known to cause death in a rabbit within two minutes, the absorptive character of the walls of the colon may be faintly estimated. True, the toxic substances generated in the body are not so rapid in their action, but they are none the less deadly. It is to this that most skin diseases, together with rheumatism, gout, neuralgia and a host of other troubles, are undoubtedly due.

TREATMENT.

Clean out the human cesspool by frequent use of the "Cascade," and a double quantity of the Antiseptic Tonic, thus preventing any further deposition of these impure substances in the blood, and keep it clean by more or less constant use. In acute cases, take frequent Turkish baths, to help elimination by way of

the skin, and keep that organ active by frequent warm baths and vigorous friction with a moderately coarse towel. Let the diet be plain and moderate, never eating to excess, and drink freely of water, to keep the blood liquid, and practice the habit of breathing deeply, to oxygenate the blood.

Consumption.

Of all diseases, consumption is the most widespread and destructive to human life. Over 3,000,000 people die annually from this disease. It is not only an acquired disease, but surely preventable, and in its early stages, curable. In the majority of cases it commences just beneath the collar bone, because here is the part of the lung that is least used, the reserve portion, not much used in ordinary breathing. In most of the avocations of life the shoulders are drawn forward, thus cramping the lungs, and weakening them, then the consumption bacillus finds lodgment. A person with healthy lungs might inhale millions of tubercle bacilli daily with impunity, hence

the inference is plain—to prevent consumption, distend the lungs fully, by deep breathing, hundreds of times daily.

TREATMENT.

The first thing to be done (if it is in your power) is to go to some quiet country place where you can be sure of the three following essentials—a dry location, pure air, and a plentiful supply of fresh, rich milk. Live as much as possible out of doors and sleep with the doors and windows of your room wide open. If it is impossible to go to the country, then carry out this treatment as closely as possible at your home. It is absolutely necessary to improve the nutrition of the body, that is, to stimulate the digestion and absorbent functions of the stomach and intestines. Flushing the colon with the "Cascade" and the Antiseptic Tonic is the first step to improve nutrition. This unlocks the secretions and prepares the stomach for food.

Next, flush the stomach. Then give the stomach food that the organs can digest and assimilate.

For this purpose nothing equals good, rich, fresh milk. Live on milk exclusively for a month at least, taking a tumbler full every half hour—the object being to supply the body with food easily digested, quickly absorbed and highly nourishing; yet at the same time, in small quantities, that will not overtax the stomach. You will quickly gain in weight, and after a month or two you may commence on solid foods partly, choosing such articles as the Salisbury steak (see treatment for obesity), pure olive oil, sweet cream, eggs, toasted whole wheat bread, etc. An external bath for those able to walk about, and a "sponge off" for those confined to bed, must not be neglected. The skin exudes more matter and is more likely to become clogged in disease than in health. Practise deep breathing assiduously. Improved nutrition is your salvation, and that must come through exercise, diet and fresh air. Spend all the time possible in the open air and in the sun's rays whenever practicable, and pay special attention to the use of the "Cascade." Remember, the cure is in your own hands—depends upon your own courage and perseverance.

Catarrh.

This is a disease resulting from cold and fæcal infection. It is the exception rather than the rule, to meet with individuals in our Northern climate who are not afflicted with it in some form or other. It is easier to prevent than cure. Strong, well developed lungs, a clean colon and skin, and catarrh, are seldom found together in the same body. Perfect lung development and a clean colon will alone effect a permanent cure. Keep the feet warm and dry, never go into a hot room and sit or lie, and sleep in a cool, dry atmosphere. The disease takes two different forms, nasal and throat. Nasal catarrh is first caused by inflammation of the membrane of the nasal cavities and air passages, which is followed by ulceration, when Nature, in order to protect this delicate tissue and preserve the olfactory nerves, throws a tough membrane over the ulcerated condition. At this stage it is designated chronic catarrh.

TREATMENT.

Use the "Cascade," with a double quantity of Antiseptic Tonic, regularly every day, with water as hot as can be borne, and guard scrupulously against taking cold. The membrane must next be removed, and for this purpose we most unhesitatingly recommend the J. B. L. Catarrh Balm.

Half a lifetime of careful research has been devoted to perfecting this admirable preparation, which to-day stands first as an effective agent in removing this membranous obstruction. It is composed of several kinds of oils, and gently but effectually removes the membrane that Nature has built over the inflamed parts, while its emollient character soothes and allays the inflammation. These oils are not absorbed into the system, but act only locally.

The method of application is as follows: A small quantity is placed in each nostril, and allowed to dissolve, throwing the head back and allowing the fluid to pass up the nostrils and into the throat.

There is no case of catarrh so obstinate but

will readily yield to this treatment. But as a preventive of all this keep the colon clean and pay attention to lung development.

Erysipelas.

This disease arises from impure blood. A peculiar poison is generated, which declares itself in the form of a red, puffy swelling, closely resembling a blister, and very much like it to the touch. If the finger is pressed upon the inflamed part, it will leave a white spot there for an instant. It most usually attacks the face and head. In the majority of cases it arises from an obstructed colon, a fermentation being generated there from the long retained fæcal matter, consequently a positive and sure cure is to thoroughly cleanse that organ with the "Cascade" and the Antiseptic Tonic. As a local application take loppered sour milk and apply it to the inflamed parts, or, if not this, the next best thing is hop yeast mixed with charcoal to the thickness desired. The lactic acid in sour milk is a direct antidote to the poison of erysipelas.

Dyspepsia.

This disease does not come by chance. Infection or contagion can never be held responsible for it. It is the penalty which Nature inflicts for violating physiological laws. Do not be deluded by extravagantly worded advertisements into the belief that any nostrum has been or ever will be invented that can possibly effect an immediate cure. You must entirely abandon the habits that induced it. Masticate your food thoroughly—allowing the saliva to mix with it—not bolt it, and then wash it down with copious draughts of tea, coffee or water. This superabundance of fluid only serves to distend the stomach and impede digestion. A change of diet is necessary, but not so essential as a change in the habit of eating. Dyspepsia is more or less catarrh of the stomach. Its lining becomes coated with a slimy mucous that arrests the action of the glands, coats the food and prevents the gastric juice from acting upon it.

TREATMENT.

For the first week, use the "Cascade" and Antiseptic Tonic every night, the second week, each alternate night; thereafter, as occasion seems to demand. Drink a glass of hot water, not less than half an hour before each meal, especially before breakfast. The breakfast should commence with a liberal amount of good, ripe fruit, preferably oranges or grape fruit. This may be followed by a small quantity of some good preparation of whole-wheat possibly, a lightly boiled or poached egg and a slice of crisp, dry toast, or whole-wheat bread. Drink nothing with the food, but take a glass of hot milk half an hour later. Good, lean beef or mutton, broiled or baked, is easily digested, and may be eaten moderately at midday. If the stomach is very sensitive, it is better to eat five or six meals a day, of a few ounces, than to overtax the stomach. Masticate every mouthful of food thoroughly, and practice deep breathing assiduously; is an important aid to digestion.

Rheumatism.

Both chronic and acute rheumatism are diseases of the blood. Imperfect nutrition and deficient excretion are the primary causes, and the result is that the blood becomes loaded with poisonous matter. The trouble manifests itself in the joints, toes, ankles, knees or hands, but the seat of the disease is elsewhere.

TREATMENT.

The first thing to be done is to promote oxidation and increased activity of the liver. The best way to accomplish this is by the daily use of the "Cascade" and Antiseptic Tonic, first with hot water, then with cool water, doubling the Antiseptic Tonic. Do this twice a day for a week, then once a day for a month. Take a Turkish bath daily for a time to restore the functions of the skin. Rub the disabled joints with the J. B. L. Ointment, followed by massage and pressure movements. The diet should consist largely of green vegetables, mutton and whole-wheat bread, or toast, eggs, milk and

fruit. Avoid pastry and starchy food, such as potatoes, beans and white bread. A cup of hot water, not less than half an hour before breakfast, should not be omitted.

Typhoid Fever.

The chief seat of this terribly prevalent disease is in the stomach and intestines, particularly the colon. It is a foul, bacterial disease, and originates in filth. The germs may be taken into the system in impure water or milk. Once in the system, the bacteria must have decayed matter to feed upon, therefore it is impossible for a person who is clean both inside and out to take typhoid fever, there being no facilities for the germs to breed and multiply.

TREATMENT.

Knowing the cause of the disease, common sense tells us that the first thing to do is to check the multiplication of the germs by removing the putrid matter in which they breed. Use the "Cascade" and double portions of the

Antiseptic Tonic, with water just as hot as the hand will bear, so it will not scald. Retain the water from ten to fifteen minutes. Next, the patient must be sweated, to open up the pores of the skin, and for this nothing equals the wet sheet pack. Roll the patient in a sheet wrung out of cold water, on top of this a couple of blankets and a comfortable. At his feet place a hot water bottle, on his head a towel, wrung out of cold water. Give him plenty of fresh air. When he has perspired freely take him out of the pack, wash him with warm water and soap, rub him down, give him a drink of cold water and put him to bed. Repeat the injections daily, using tepid water. In cases of extreme weakness the treatment must be modified. Let the patient have all the cold water he wants to drink and give him plenty of fresh air. Use flushings daily, also the external bath, remembering in the latter to use cold water when the fever is high, and he will speedily be restored to health. Let him eat nothing until Nature calls for it.

Bilious Fever.

This disease generally makes its appearance with one or more chills, sickness of the stomach and more or less fever. The tongue has an ill-looking yellow coat and food is unacceptable. The cause of all this, to an intelligent mind, is perfectly clear. The colon is clogged and the acids in the stomach, together with an abundance of secretions from the liver, have no outlet. In this condition a slight cold will close up the already overworked pores of the skin and turn the tide of corruption into the stomach, lungs and kidneys, and bilious fever is the result, for, Nature being unable to get rid of the filth by the ordinary methods, resorts to her last expedient, of burning it up.

TREATMENT.

The remedy is obviously simple. Use the "Cascade" with a liberal quantity of Antiseptic Tonic in the water, and open the pores. Wash the stomach, take two or three hot injections daily, and a hot sheet pack. This

treatment, with baths and rubbing, will cure an ordinary case of bilious fever in about three days. Avoid all drugs. Nature will call for food when it needs it.

La Grippe.

This is the modern name for influenza. It resembles an ordinary cold in its symptoms, but is far more violent in its effects. Acute pains in the head and kidneys are symptoms that are usually present. If neglected, it may develop into pneumonia, or consumption. It is both epidemic and contagious.

TREATMENT.

Possibly you are not aware that this disease is almost invariably accompanied by constipation, but it is a fact, nevertheless. Consequently, the internal bath, with Antiseptic Tonic treatment for the bowel, is the first remedial process to be resorted to. Make them hot and copious, and use them daily, for three days at least. Next, relieve the internal congestion by opening the pores of the skin. To

do this, use the Turkish bath (see end of book), take it at night, drink a glass of hot lemonade, and go to bed. Tuck yourself up warm. Doubtless it will make you sweat, but you need that. In the morning take a bath and a good rub down. Drink a cup of hot water half an hour before breakfast, and let that meal consist of plain food, soft-boiled eggs, oatmeal, Graham bread and fruit—oranges, if procurable. Two days of this treatment will put La Grippe to flight, but the better plan is to prevent it by keeping the colon cleansed.

Dysentery.

This is a disease of the colon. The retention of fæcal matter in the folds of the colon inflames the parts until they become dry, then the soft evacuations dry on the sensitive mucous membrane. These secretions produce a peculiar acid, which in its turn breeds amœba, and these, in the early stages of their existence, eat into the foreign matter and even into the mucous membrane itself, causing what is known as dysentery.

TREATMENT.

In either the acute or chronic cases, the patient must be treated lying down, with the hips elevated above the shoulders. For this purpose our Fountain attachment is necessary with the "Cascade." This will relieve the pain and congestion in the lower part of the colon. In acute cases do not let the patient sit up a moment. Use a bed pan always. Flush the colon with hot water, into which a double portion of Antiseptic Tonic has been dissolved, letting it flow gently. After the discharge, follow with an injection of two ounces of mineral oil, which should be retained as long as possible. This is an emollient, and will soothe and heal the ulcerations.

Diarrhœa.

Is simply Nature's method of getting rid of undigested substances in the alimentary tract. After a time the irritation excites the glands to abnormal action to wash out the offending substances, resulting from excessive

fermentation. If not relieved, ulceration sets in, and germs breed in the intestines—then we have what is known as chronic diarrhœa.

TREATMENT.

The treatment in both varieties is the same. Use the "Cascade," with a liberal amount of Antiseptic Tonic incorporated, until the colon is thoroughly emptied and cleansed. Take a warm bath before retiring, and follow it with a brisk rub down. Be careful in your diet—the better plan being to fast for a day or two, until the worst symptoms are past.

Diseases of the Nerves.

Most people imagine that nervousness is the result of too much nerve force, but the opposite is the case. The trouble is a too sensitive battery and inadequate nerve force. The batteries, or nerve centers, are too easily discharged. It is nervous irritability, therefore, that we have to deal with.

The causes are manifold, the restless Ameri-

can nature, neglect of physical training, giving too little time and attention to eating and sleeping, concentrating too much attention on money getting and business to the neglect of recreation and repose. One of the gravest causes is a constipated colon, which promotes indigestion, and through it, lack of nutrition, thus cutting off the supply of nerve food. The habit of tea and coffee drinking, and the use of tobacco and alcohol, are also fruitful causes of this distressing affliction,

TREATMENT.

You must apply a brake to that restless motor within you that is driving you too fast. You must step out of the busy stream of life for awhile, let it rush past you and take things easy. Flush the colon regularly—remove that great source of nervous irritation, for we have yet to hear of a nervous person that was not constipated.

If you suffer from nervousness, you are dyspeptic, your whole course of life tends to render you so. Follow the treatment, espe-

cially the diet, given under the head of "Dyspepsia." Practice deep breathing, for lung development, for strong lung power is never associated with nervousness. Take plenty of exercise in the open air, but not to excess.

Be moderate in all things, except sleep, you cannot sleep too much. Cultivate the sleeping habit, and don't give up until you can sleep ten hours a day.

The Matter of Food.

is important, for, as before stated, nervous people eat and sleep too little. Fatty foods, or those that are easily converted into fat, are what is necessary. Olive oil is one of the best nerve foods in existence. Take a teaspoonful at a time, and gradually increase the quantity until you can take a tablespoonful at each meal. If you really can't take olive oil, the best substitute is sweet cream. Celery is also good, and lettuce.

Cultivate slow and measured movements, avoid undue activity, take life easy and be moderate in all things.

To sum up. Flush the colon, sleep long, eat slowly, and plenty of oily or fat food, exercise freely, but in moderation, develop the lungs by breathing exercises, and take life easy.

This line of treatment, faithfully carried out, will cure the very worst cases in time.

Headache.

There are many causes for this distressing complaint. Generally the cause is to be found in the stomach. Something that has no right there is in that organ, and irritating the pneumogastric nerve that connects the stomach with the brain. It is a common symptom of dyspepsia.

An engorged colon is one of the most common causes ,on the same principle that it causes paralysis and apoplexy. Stimulants invariably promote headache.

To prevent the attacks, live regularly, avoid late hours and excessive brain work, shun alcoholic beverages and tea and coffee, avoid sweets and pastries, and anything fried in fat. Eat good, plain food, including fruit (espe-

cially oranges), but never eat late at night. Develop the lungs. Never let a day pass without gently exercising all the muscles. Massage the abdomen each night before retiring. Keep the colon clean by the use of the "Cascade" and Antiseptic Tonic, and bathe at least three times a week.

To relieve an attack, flush the colon thoroughly. Take a hot foot-bath, and while taking it, take a cup of hot lemonade—without sugar—so hot that you have to sip it. The application of some of the principles of Zone Therapy may be very helpful. Press the thumb or the metal handle of a table knife on the roof of the mouth—the hard palate—immediately under the seat of the worst pain. Maintain this firm pressure for from five to eight minutes. This will usually clear up a headache.

Dropsy.

In this disease the outlet to the intestinal canal has become clogged. The heart and circulatory system is overworked. The kidneys wear out trying to evacuate the bowels through

their delicate tubular network, and the capillaries have become helpless through misuse in trying to do the work of others. So the tissues and muscles of the extremities are loaded with this cast off material, and we call it bloat. This is dropsy.

TREATMENT.

Use the "Cascade" and the Antiseptic Tonic at least twice a week, making the flushings thorough and complete. In addition, I would earnestly recommend a daily application of the Turkish bath, to open up the pores of the skin and induce perspiration. If the patient is too weak to take the Turkish bath, the hot wet-sheet pack, the same as prescribed for Scarlet Fever, will accomplish the same purpose. The Turkish bath, however, is by far the best, for the system is loaded with too much water, for which the profuse perspiration induced by this dry sweating process affords marked relief.

With reference to diet, it is wise to eat as little as possible, and let that be of dry toast, thoroughly masticated. It is important that no tea or coffee should be taken.

Appendicitis.

This complaint was formerly known as inflammation of the bowels, and may be caused by injury. It was generally believed to be due to the presence of foreign substances, such as grape seeds, etc., in the vermiform appendix, but this idea is exploded. It is an inflamed condition of the appendix, but the inflammation may have extended from the colon or from the peritoneum. The most frequent cause is the cæcum (the lower pouch of the colon) getting filled with hardened fæcal matter, in which case the ileo cæcal valve is obstructed, and the natural passages of the bowels stopped. With a clean colon appendicitis is practically an impossibility.

TREATMENT.

Use the "Cascade" with a double or even a triple portion of Antiseptic Tonic promptly on the first sign of an attack, injecting all the water possible (at a temperature of not less than 102 Fahr.), so as to reach the cæcum, where the trouble is located. If the attack is

an acute one, use the "Cascade" every third hour until relieved. If the obstruction (which is usually present) does not give way, inject a pint of hot water and a pint of castor oil mixed; but before injecting it raise the patient's hips several inches higher than his head; then turn the patient on his right side, and stroke the reverse way of the colon, applying a firm but gentle kneading movement in the region of the appendix. This injection should be retained at least half an hour—longer if necessary. If this does not break loose the obstruction, resume the use of the "Cascade." Hot fomentations over the appendicular region are valuable. After the bowel has been emptied let the patient have absolute rest, and if there is much pain and inflammation present, apply cracked ice, in a rubber bag, over the affected part. The diet should be absolutely liquid until all danger has passed. This is of the highest importance.

Diseases of the Liver.

Liver complaints are always closely related to other diseases of the digestive organs.

The colon being clogged, the intestines are rendered sluggish, which in turn acts upon the duodenum, or second stomach, and prevents the food from properly passing out—then fermentation takes place. Bile is poured out on the accumulated food again and again, for the presence of anything in the duodenum is a demand for the secretion of bile. As a result too much bile is mixed with the food to be absorbed—the blood becomes tainted with biliary secretions—showing itself in a yellow skin, dizziness of the head, dull, sleepy condition and lack of ambition. This overtaxing of the organ results in what is known as acute congestion, the symptoms of which are tenderness to touch and a feeling of painful tension on right side just above the edge of the ribs, slight jaundice, furred tongue, loss of appetite and scanty, high-colored urine.

TREATMENT.

Open the colon by the use of the "Cascade" and the Antiseptic Tonic, when the intestines and duodenum will be in turn relieved, then

open up the pores of the skin with baths and allow Nature to expel the waste from the system in that manner. The wet sheet pack will be found specially valuable for that purpose.

An unnatural appetite often accompanies bilious attacks, but it should be resisted. Eat sparingly of bread and milk, slightly salted, for two or three days. Take more vegetables and fruit acids; do not eat meat more than once a day for a week or two. Any exercises that call the muscles of the stomach into play are beneficial and should be practiced daily, especially horseback riding and rowing. Exercise by bending forward, trying to touch the toes without bending the knees; at the same time taking a deep breath—you then have the liver as in a vise, thus inducing active circulation.

The "Bear" walk, or walking about the room on all fours without bending the knees, is one of the best exercises for a torpid liver that can be imagined, but it should be practised in private, or your friends may question your sanity.

Diseases of the Skin.

These diseases usually have their origin in constipation, therefore the first thing to be done is to relieve this condition of the colon by daily use of the "Cascade" and Antiseptic Tonic. Bathe the body daily in tepid water, being careful not to use soap that will irritate the skin.

Never use common soap nor any of the highly perfumed varieties. An occasional wet pack sheet is of great value. Attend carefully to the diet and avoid all foods fried in fat, especially buckwheat cakes and food of that description.

Disease of the Kidneys.

This is caused by irritation of the kidneys, brought about by those organs being forced to do work which does not properly belong to them.

Congestion is the first step towards chronic or acute inflammation. The second stage is a breaking down or degeneration of the kid-

ney cells. If degeneration has passed a certain point, there is no hope.

TREATMENT.

The only possible cure is to remove the cause. The colon, intestines, stomach and skin must be got into good working order, so that they will do their own work and relieve the poor scapegoat—the kidneys—of unjust burdens. The colon should be constantly and copiously flushed with the "Cascade" and Antiseptic Tonic, and warm baths frequently taken. The Turkish bath is valuable, especially the home bath described in this book.

Every night after flushing the colon inject a pint of warm water and go to bed. It will pass off through the kidneys, cleansing them. If there is acute pain, repeat the injection every two hours until relieved. Hot fomentations applied to the back, over the region of the kidneys, will relieve the pain, and gentle massage in the same locality will be found beneficial.

Avoid sweets, pastries, starchy foods, potatoes, alcohol, tobacco, tea, coffee and overfat

foods. The diet recommended for dyspepsia is good. Skim milk, buttermilk and whey should be used freely, as they exercise a very beneficial influence on the kidneys. A wet compress worn over night will help draw out the poisonous waste matters.

Peritonitis

Is an inflammation of the membrane covering the bowels, and is frequently caused by concussion or injury; sometimes it extends from adjacent organs, but in many instances it is caused by the breeding of germs in the hardened fæcal accumulations in the colon.

No matter what the cause may be, flush the colon vigorously with injections as hot as can be borne, and place bags of hops, steeped in hot vinegar, on the outside. This will soon reduce the inflammation and effect a cure. The Antiseptic Tonic is an immense aid in this condition.

Pneumonia.

Sometimes called Lung Fever, is an acute inflammation of the lungs, usually caused by

a cold, and commencing with a chill and feverish symptoms. At first there is a dry cough and what is known as the brick dust sputum, and in the advanced stages a peculiar dark tint in the cheeks, known as the mahogany flush. The breathing becomes very hurried, rising as high as forty respirations per minute. It is an exceedingly rapid and frequently fatal form of disease.

TREATMENT.

Promptitude in dealing with the case is of the highest importance. If the colon had been kept clean and the lungs developed by exercise it could not have attacked you; therefore the first thing to be done is to use the "Cascade," with the Antiseptic Tonic. Then the circulation must be equalized by drawing the blood to the skin and extremities—away from the congested lungs. A hot foot-bath will draw the blood to the extremities and a Turkish bath (see end of book) will do the same to the skin. If too weak to endure the Turkish bath, substitute a hot bath. Put the patient to bed immediately and apply a hot com-

press over the lungs, wrung out of hot brine, changing it as often as it gets cool. Give little, if any, food during the continuance of the disease; if any is given it should be light and nutritious.

Bronchitis.

This is an acute inflammation of the bronchial tubes, or air passages, and the treatment is almost identical with that for pneumonia; only applying the hot compress to the throat or chest, according to which part exhibits the most soreness. If the throat is very sore use the following gargle: Bichromate of potash (pulverized), one drachm; tincture capsicum, half ounce; pure water, two tablespoonfuls. Shake until dissolved. Add one teaspoonful of this mixture to three-fourths of a tumbler of water and gargle the throat every hour until relieved—then every two hours until well.

Asthma.

A most distressing complaint, and hitherto imperfectly understood. It has been attributed to innumerable causes, but our contention is

that it is largely due to an engorged transverse colon, which, interfering with the free action of the diaphragm, withdraws that amount of impetus from the lungs, so that they fail to respond to nerve stimulation. This contention is borne out by the fact that in numerous cases where the colon was emptied, the trouble disappeared and no trouble was experienced so long as the colon was kept clean. In all cases of asthma the last meal should be a light one, if taken at all; in fact, it would be well to follow the dietary rules for dyspepsia, and in addition omit the evening meal.

Uterine Displacement.

This prevalent complaint among the women of America is due, in ninety per cent. of the cases, to constipation, and that is mainly attributable to tight lacing. In the majority of our countrywomen the sigmoid flexure (see diagram at beginning of work) is distended to nearly double its natural size, pressing upon the womb, which necessarily displaces it, but in addition, the colon, through impaction, fre-

quently becomes highly inflamed and communicates the inflammation to the womb, making it heavy and relaxed.

The ascending and descending colon lie immediately behind the ovaries, and if (as is often the case) it becomes distended to double its size, it stretches the broad ligaments and ovarian connections, frequently breaking them away from their peritoneal attachments or carrying the peritoneum downward with them.

The Fallopian tubes, which penetrate and are attached to the peritoneal sack, together with the uterine broad ligaments, are designed to hold the womb in place, but if the womb and ovaries are crowded down into the pelvic cavity and the womb doubled upon itself, dysmenorrhea or painful menstruation, or amenorrhea, with convulsions, is the result.

TREATMENT.

Empty the colon and keep it clean by regular use of the "Cascade" and the Antiseptic Tonic. Wear your clothing as loose as your husband's or brother's, and the womb will go

back into its place, and all the bad symptoms disappear. It may be, though, that the tendons and ligaments have become partially paralyzed through the uterus having been so long out of place.

After emptying the colon, if there is pain in the back, with a bearing down sensation, sit in half a tub of hot water for fifteen or twenty minutes once every other day. Throw yourself upon your back, with the hips raised as high as possible, then rub up from the pelvic bone. This will reduce the displacement of the sigmoid flexure, besides giving relief. Should the womb not go back into place, call in a physician to replace it.

Painful menstruation and leucorrhea, which are caused by displacement of the womb, inflammation and hypertrophy, or hardening of the womb, enlarged and sensitive ovaries, can all be greatly helped by flushing the colon.

Anteversion.

The womb falls forward on the bladder (causing frequent desire to urinate) and down-

ward, which, with the falling of the sigmoid flexure, produces obstruction of the bowels and great straining at stool.

Retroversion

Is a falling down, with the body of the womb thrown backward. Frequently it is doubled upon itself, when it becomes hardened and inflamed, and adhesion often takes place. In retroversion, after emptying the colon, assume the following position: Kneel on the bed, or sofa, with the body thrown forward until the chest also touches. Retain this position as long as possible, and repeat it frequently during the day. Sleep with the foot of the bed raised eight inches. These positions all facilitate the return of the womb to its normal position.

Eat nutritious, easily digested food, and avoid all stimulants.

Common Colds

Are very disagreeable things, and, though not dangerous in themselves, yet are frequently

the cause of serious complications and the forerunners of consumption, pneumonia and catarrh. Colds are commonly due to sudden changes of temperature and germ infection, and are caused by the sudden closing of the pores of the skin, thus preventing the escape of those waste matters of the body which Nature has designed should be expelled in that direction. The blood is thus driven inward, causing congestion. If the system is in a sound, healthy condition, with respiration good and the colon clean, it should be next to impossible to take cold. If, however, there is a weak spot in the body, be sure the cold will find it, when, if not promptly dealt with, serious results may ensue.

TREATMENT.

Constipation is the invariable primary cause of a cold, hence the first thing to do is to flush the colon. Use the "Cascade" with the Antiseptic Tonic daily for at least three days. Do not eat any supper the first night. The next thing to be done is to take the Turkish bath (see end of book). It should be taken at night,

after which drink a glass of hot lemonade and go to bed, covering the body thoroughly. No doubt you will perspire profusely, but that is what you need. In the morning take a good bath and rub down, following the directions given for bathing, drink a cup of hot water an hour before breakfast, and let that meal be light, such as Graham bread, boiled eggs, oatmeal and oranges. You are then ready to attend to your daily business, and if you take another flushing at night, the next morning your cold will be only a memory.

Constipation.

This condition of the system has been so frequently referred to already that further comment upon it may be deemed unnecessary. Its causes are varied, insufficient exercise in the open air, hastily eaten and imperfectly masticated food. Also many articles of food tend to induce the evil of habitual constipation.

Whatever you may do, avoid everything in the form of drugs, for they are injurious in the highest degree. The continual excitation

of the excretory processes by the use of cathartics is a most pernicious practice and should be shunned.

The "Cascade" should be used each alternate day, for at least two weeks, then, twice a week, until improvement is assured. Drink a tumblerful of hot water, not less than half an hour before breakfast, and eat freely of fruit at that meal. Also partake liberally of good, green vegetables at other meals. Eating whole-wheat bread is of decided assistance, and make it a rule to drink from two to three pints of water each day. The regular use of the Antiseptic Tonic is very important in the treatment of chronic constipation—as it tones up the bowel muscles and strengthens the nerves of the intestines, thereby overcoming costiveness.

Piles or Hemorrhoids.

This is a disease of the rectum and muscles of the anus, and is the direct result of constipation. The accumulation of hardened fæcal matter distends the sigmoid flexure, causing inflammation, until from its own weight it falls

down, producing prolapse of the rectum. Frequently ulceration follows and the rectum is pressed out, tumors forming on the protruding portion.

Bleeding piles are caused by congestion of the rectal blood vessels. The constant nerve irritation causes muscular contraction, consequently circulation is interfered with, producing a condition of engorgement. Owing to lack of nutrition the structures become brittle and quantities of the varicosed capillaries unite to form pile tumors. The methods of treatment usually employed are, injecting astringents into the tumors to dry them up; to ligate the tumors, that they may die or drop off, or to amputate the portion of the rectum in which the tumors form (known as the radical operation), none of which prevent a return of the trouble. The only rational plan is to remove the cause.

TREATMENT.

First empty the colon, using the "Cascade" and the Antiseptic Tonic, thus removing the cause, then the inflammation will subside and

the protruding bowel go back into its place. Tumors will soon absorb if they are put back when they protude. Sitting in a tub of hot water is very helpful.

The most effective remedy yet devised for the relief of bleeding, itching, or protruding piles, as well as for all conditions of inflammation and irritation in the lower bowel, is the "J. B. L." Pile-Ease.

After each movement, and before going to bed at night, the parts should be carefully cleansed with Dr. Tyrrell's Health Soap.

Then the "Pile Pipe," which is screwed to the mouth of the tube, is passed into the rectum and a liberal application of the Pile-Ease made to the parts. This will strengthen the tissues, relieve all pain, itching and bleeding—and usually bring about perfect relief within a month or six weeks.

Paralysis or Palsy.

These two terms signify one and the same disease; that is, a condition of the system in which the power of voluntary motion is lost. It is the outward manifestation of a deep-

seated disease that can frequently be traced to an obstructed colon and consequent disordered circulation. The same causes promote apoplexy. A blood vessel is ruptured in the brain, causing a clot to form, which presses upon the nerves that convey the will of the mind to the muscles, thus stopping their action. It is not, as is usually supposed, an affection of the muscles, but of the nerves that control the muscular movements. Sometimes one entire side of the body becomes affected and completely deprived of voluntary motion. Congestion of the brain is a preliminary of paralysis, and congestions of the brain are invariably due to an enlarged transverse colon.

One form of paralysis affects only certain parts of the body, such as the lower limbs, or the reproductive organs, and is caused by pressure upon some large nerve communicating with the paralyzed portion. This is doubtless due to the pressure of an enlarged ascending or descending colon upon some of the lumbar plexus nerves, or their branches. This, however, refers to what may be termed local paralysis, or paralysis of certain parts.

Paralysis of an entire side of the body is due to pressure on the brain, and this is caused by defective circulation, induced by an unnaturally distended colon. While in this condition some severe physical exertion or mental strain increases the pressure beyond the power of resistance and a rupture is the result—when the patient falls, wherever he may happen to be.

TREATMENT.

Remove the accumulation in the colon with the "Cascade" and the Antiseptic Tonic. Massage is a very valuable part of the treatment. To prevent the muscles from stiffening, and to retain the suppleness of the affected parts, frequent rubbings are necessary, and the mind should be stimulated to resume its control over the refractory muscles. It is necessary to pay particular attention to diet—easily digested, non-constipating food only. You may have to revert to a spoon diet for awhile—and, as the liability to a second attack is great during the period of recovery, special attention must be given to diet to guard against it.

When power begins to return to the affected parts, a system of graduated exercises should be arranged, gradually increasing in force with the return of strength and normal condition. These exercises will gradually educate the mind and restore its harmonious working with the body.

Epilepsy, or Falling Sickness

Is distinguished from apoplexy, or paralysis, by the convulsive action and foaming at the mouth. One prime cause of this most distressing complaint is the action of worms in the colon. In a number of cases treated by us, knots of worms were expelled, and the exciting cause being removed, complete recovery followed. The preventive treatment is simple. Use the "Cascade" and our Antiseptic Tonic until the worms are entirely expelled. During a fit loosen the clothing at the throat and place something in the mouth, a cork, for instance, to prevent the patient from biting his tongue. Some fine salt thrust into the mouth will shorten the duration of the fit.

Another prolific cause is masturbation, in which case nothing but the abandonment of the habit and a cleanly life, both physically and morally, will effect a cure.

Gonorrhœa.

This is a contagious disease, and its victims usually become the prey of unprincipled charlatans, who drive the disease inward by suppressing the symptoms. It affects the male much more seriously than the female. It commences with a slightly uneasy sensation at the mouth of the urethra, between the second and seventh day after exposure to infection. The natural discharge of mucus is increased, and is more viscid, followed by acute inflammation. The discharge becomes thick and greenish and urination is painful. Swelling of the glands in the groin is common, called a bubo. Orchitis or swelling of the testicle is also a frequent accompaniment. Under the best of treatment it will require from four to six weeks to effect a cure, but if neglected it may mean months.

TREATMENT.

Use the "Cascade" with a double portion of Antiseptic Tonic every night for the first two weeks, then twice a week for at least two months, to get the poison out of the system, and keep the parts scrupulously clean by bathing them two or three times a day. Carefully avoid everything in the form of a stimulant, especially alcoholic drinks, also tobacco, and let the diet be largely vegetable. Use the following urethral injection twice every day after urinating: Colored fluid hydrastis, two drachms; fluid extract canadies pinus canadensis, two drachms; bromo chlorellum, half a drachm; water, six ounces. Shake well and inject twice a day until a marked improvement can be noticed, then once a day, and, finally, every other day.

Hernia or Rupture

Is the escape of some portion of the viscera through an abnormal opening and takes its particular name from the locality in which

the protusion occurs, although the inguinal is the most common form. The dynamic force of foul gases engendered in the system is a frequent cause; but the mechanical pressure exerted by an overloaded colon in the limited space of the abdominal cavity is responsible for many cases. The treatment is obvious—use the "Cascade" faithfully, and, the cause being removed, reduction is easy, and if the colon be kept clean, a properly adjusted truss will soon completely cure it.

Inebriety

Is responsible for many of the ills of the present generation, in the form of transmitted constitutional weakness, not to mention the functional derangement and organic destruction, of which it is a potent and direct cause.

There are two grave reasons why alcohol should not be taken into the system, or, if at all, in very minute quantities and at distant intervals. The first is the moral reason, because it undermines and destroys the finer part of man. It has the peculiar effect upon the

brain of stimulating the baser qualities and blunting the finer ones. The second is the physical reason, see "The Diet Question." When alcoholism becomes a fixed habit, it must be treated as a disease, for it is one in reality.

TREATMENT.

First get the alcohol out of the system by flushing the colon daily. This will help you to stop drinking (which is so much easier advised than accomplished), then proceed to sweat it out by a daily Turkish bath (see end of book) or a Turkish bath one day and a wet sheet pack the next.

Second, sip a cupful of hot water not less than half an hour before each meal. Then use the "Cascade" with Antiseptic Tonic. After a month the alcoholized blood in your veins will have been replaced with good, rich blood, and your cure practically effected.

Obesity.

The condition of the body, to which nosologists have applied this term, is that of general

engorgement, or, over-fullness, and is the result of excessive eating, or imperfect depuration, or both. Over-eating and inactivity are the chief producing causes. It is the especial prerogative of children to be fat, but when too great an accumulation comes, with advancing years, it brings discomforts, disadvantages, and oftentimes fatal diseases, among which are Apoplexy, Fatty Liver, Bright's Disease and Fatty Heart.

TREATMENT.

Use the "Cascade" and Antiseptic Tonic regularly, and take as much exercise as is possible without fatigue. A brisk three-mile walk daily will work wonders in reducing weight, especially if you perspire freely. Drink a pint of hot water an hour before each meal and half an hour before retiring, to wash the sour ferments and bile from the stomach before eating and sleeping. Live principally on roast or broiled meat, fish, poultry or game, boiled rice, green vegetables, and whole-wheat bread.

When people are unable to take the neces-

sary amount of exercise, the dieting process, known as the "Salisbury system," is very effective. This consists of the lean part of good beef, from which every particle of fat and sinew is removed, then chopped to a pulp, made into small cakes and *broiled*—then eaten hot. The reduction of adipose tissue demands a certain amount of self-sacrifice, but the above method, if faithfully followed, never fails to effect the purpose unless due to thyroid disturbances.

Lost Manhood.

Is the term now generally employed to describe impotence, or physcial inability to perform the sexual function. It is frequently due to conjugal excesses, but the principal cause is the baneful widespread practice of masturbation, or self-pollution. It manifests itself in what is known as Spermatorrhea, or involuntary emissions of the seminal fluid, and if allowed to continue unchecked, speedily depletes the vitality of the sufferer, and renders him a physcial wreck. Do not be deceived by the lying advertisements of unprincipled char-

latans, that any drug can help you. The treatment must be hygienic and thorough, and may necessitate a change in your whole mode of life.

TREATMENT.

Firstly, the colon must be kept clean, as the fæcal accumulations there irritate the sensitive nerves. So it is advisable to use the "Cascade" with double portions of Antiseptic Tonic every night for two weeks at least, then every second night. Secondly, practice the breathing and bodily movements described under the head of Exercise, and take all the exercise you can in the open air, as these things are important factors in strengthening the nervous system and hastening a cure. Thirdly, special attention must be paid to diet. If you can practice strict vegetarianism for a time, so much the better, choosing those articles most easily digested. Only plain roast or boiled beef should be eaten (if any meat be taken at all), shun all hot condiments, also tea, coffee, tobacco and alcohol—especially the latter, for nothing can help you while you use these

articles. Fourthly, after flushing, take a cold bath every night, or, if this is impracticable, bathe the genital organs, and the spine (up to the base of the brain) in cold water, and rub down vigorously with a crash towel. Fifthly, resolutely form cleanly habits of mind, as well as body; take up a course of good reading to occupy the mind, and divert it into healthy channels, and shun all reading of a sensational nature. Sixthly, avoid thinking impure and lascivious thoughts, and do not allow your mind to dwell upon your condition, but cultivate self-control.

Frequently quite aged men write us, complaining of their sexual disability—to all such, we say that the restoration of lost power after fifty years of age is in the highest degree improbable, and after the grand climacteric (63) is passed—it is practically impossible.

Diabetes

Is a peculiar and troublesome disease, characterized by an excessive discharge of urine, which is heavily charged with grape sugar,

which is the saccharine principle of grapes and honey. This substance is manufactured in excess by the body, and eliminated by the kidneys. The discharge of urine is abnormally large, sometimes reaching as high as several gallons daily. Owing to the presence of sugar in the blood and the secretions, nutrition is affected, and other disturbances manifest themselves in the system. It is a disease, which, if not taken in time, usually proves fatal, and it therefore behooves the individual to keep the body in thorough order, and to carefully watch any abnormality in the urine.

TREATMENT.

The "Cascade" with the Antiseptic Tonic should be used regularly, also the wet sheet pack, to promote the action of the skin, for that organ usually exhibits a marked dryness; and its temperature should be varied to suit that of the body. If fairly vigorous, the morning cold bath should be used, for its tonic qualities, or, if weak, then the tepid bath, followed, in either case, by a brisk rubbing, to promote

circulation. Diet is most important. All sweets and starchy foods, which are converted into sugar by digestion, should be shunned, while whole wheat bread, lean beef, mutton and fish, together with salads made from herbs, should be eaten. Acid fruits, such as oranges and lemons, are beneficial. Soft boiled eggs and milk (in moderation) may be taken. All food should be eaten slowly and a little at a time. The only drink should be pure water, and that never at meal times; but a cup of hot water half an hour before meals will be found of service. Tea, coffee, cream and especially alcoholic drinks, must be absolutely avoided.

Locomotor Ataxia

Results from what is known as sclerosis, a hardening of the gray matter in the motor centres of the spinal cord. Its special symptom is the peculiar high-stepping gait, the power of locomotion not being properly under the control of the will, and when the eyes are closed, it seems impossible for the afflicted person to walk forward without falling. The

regular use of the "Cascade," perfect rest, strict attention to diet, and judicious massage has been very helpful in ataxia; but if the case is well advanced, it is doubtful whether restoration to health can be effecetd.

Nursing Mothers.

Under the above heading, we class the following troublesome complaints: Inflammation of the Breast, Milk Fever, Sore Nipples, Puerperal Swelled Leg, and Puerperal Fever, or Peritonitis, all of which complaints are practically unknown, under intelligent hygienic treatment.

We would point out that a simple hygienic mode of life (including careful diet and the regular practice of the "Cascade Treatment" during pregnacy), will not only have the effect of making the labor easy, and the recovery rapid, but will almost preclude the possibility of any of the above complaints manifesting themselves.

During pregnancy the "Cascade" and the Antiseptic Tonic should be regularly used

twice a week, by which means the absorption of the poisonous waste matters of the system into the circulation is avoided, and the future health of the infant assured. The body should be bathed daily, or a brisk rubbing from head to foot, with a towel, taken every day.

Careful attention to the foregoing hygienic mode of life, during pregnacy, will effectually prevent the appearance of those distressing complaints (before mentioned), peculiar to Nursing Mothers.

Inflammation of the Breast

Rarely occurs if the "Cascade" and the Antiseptic Tonic is regularly used. The treatment for it is to use the "Cascade" thoroughly, and apply cool wet cloths, well covered with dry ones, to the breasts. If there is a surplus of milk, draw it off with the breast pump.

Sore Nipples

Do not require anything but a little cream or olive oil applied to them, with occasional applications of cold, wet cloths when they are

hot and painful, and occasional fomentations when they are cracked and sore—but do not fail to "flush the colon."

Milk Fever

Should be treated by at once flushing the colon, and if the patient is not too weak, use the wet sheet pack (see end of book), otherwise tepid ablutions should be frequently used.

Puerperal Swelled Leg

Should be treated as an acute inflammation. The colon should be thoroughly flushed, the wet sheet pack or tepid bath used frequently, and cold wet compresses applied to the afflicted limb. The patient may drink cold water freely, and the diet should consist mainly of Indian or wheat-meal gruel.

Fistula.

There are two distinctly recognized forms of fistula, the complete and the incomplete: the latter, having only one opening, either

external or internal; if the opening is internal, it is termed, "blind fistula." The complete fistula has two openings, usually, one external and one internal, but in some cases, both openings are external. Fistula is almost invariably the sequel to a neglected abscess, therefore, any form of gathering in the buttocks should be promptly attended to. Fistula may result from an injury; but the large majority of cases are due to a congested or diseased condition of the sigmoid flexure and rectum.

TREATMENT.

It need scarcely be said, that scrupulous care and cleanliness are indispensable factors in promoting recovery, therefore, the colon must be kept absolutely clean, by the use of the "Cascade" and double portions of Antiseptic Tonic and the parts thoroughly bathed with warm water, at least, once daily. The pipe of the fistula should be thoroughly cleaned three times a day, with the following solution: To half a cupful of warm water, add twenty-five drops of fluid hydrastis and one teaspoon-

ful of finely pulverized *willow* charcoal. This should be mixed thoroughly and injected into the opening of the fistula, the whole of it, with a small piston syringe. If the opening is not external, then, double the quantity should be injected into the rectum. This practice should be persisted in until the discharge ceases. In *some* cases, operations are absolutely necessary. All stimulants should be avoided and all highly seasoned foods.

DISEASES OF CHILDREN.

The following simple methods of treating the ailments of childhood will be found remarkably efficacious, easy of application and may be used with confidence.

Croup.

This disease often runs in families, and is most frequently caused by sudden alterations of temperature. The symptoms are usually a harsh cough, hoarseness, sore throat, and slight fever.

The treatment cannot be too prompt. Use the "Cascade" and Antiseptic Tonic quickly, and place the child immediately in a hot bath, and rub the lower limbs thoroughly. Wring a cloth out of cold water, and place it on the throat and chest, covering it with a thick flannel to exclude the air. Change the cloth as often as it gets dry.

Scarlet Fever.

This is a bacillus disease. The colon being clogged, Nature is trying to cast out the impurities by way of the pores of the skin, and when these become congested we have fever. First flush the colon, then use the hot sheet pack (see end of book), if the fever is not very high, or if the child has chills. If the fever is high, use the cold sheet pack. With this treatment the rash will soon come out, and the child be easy. If fever appears again, give another injection and a sponge bath. Feed the body with water outside, and give it all it wants to drink. Give no food until Nature calls for it, then a raw egg beaten in milk. When the

appetite comes back, give soft-boiled rice, or oatmeal with milk.

Cholera Infantum

Is a disease that can be readily cured by flushing the colon, using a double quantity of the Antiseptic Tonic in the water. It is purely a disease of the alimentary canal, consequently, cleansing that passage affords relief. A tepid bath, covering the legs and abdomen, is of wonderful benefit when fever is present. Be very particular with the diet. A raw egg, well beaten, in boiled milk is very nourishing.

Measles

Is an eruptive disease peculiar to children, slightly contagious, but not dangerous. It may commence with a slight chill, or not. The fever is usually attended with a slight cold, swollen watery eyes, and sneezing.

The first thing to be done is to bring out the rash, which is quickly done, by flushing the colon, using always the Antiseptic Tonic in the water, followed by a wet sheet pack, as

in scarlet fever. When the eruption is out, nothing is needed but to keep the colon clean, and wash down daily with tepid water. In all eruptive diseases guard against taking cold —for a cold closes the pores of the skin, shutting up Nature's vent through which she is expelling the disease germs.

Worms in the Intestines.

This exceedingly prevalent and troublesome complaint may be quickly and effectually relieved by colon injections, coupled with the J. B. L. Antiseptic Tonic. It should be retained until the preparation has time to destroy or loosen the hold of the worms. Its action may be greatly accelerated by rubbing and churning the bowels.

Infantile Convulsions or Fits.

These spasms sometimes indicate the approach of one of the eruptive fevers, but usually the cause is the irritation of teething, or worms in the intestines. Although the appearance of a child under such conditions is

painful, yet the danger is much less than appears.

Get the little sufferer into a hot bath as quickly as possible, and draw the blood to the skin, which will afford relief. Next, direct your attention to the bowels. If, as is exceedingly likely, worms are the cause, treat as for worms.

Gall Stones.

Are the result of arrested secretion of bile, usually through congestion of the liver. Then the substances that form bile accumulate and solidify in granules. Hundreds of these continually pass off through the bowels unnoticed; but prolonged congestion causes them to cohere and form larger masses, that, in passing through the bile duct, cause intense pain, which is sometimes mistaken for appendicitis.

TREATMENT.

It is only in passing, that their presence becomes known, when all that can be done is to favor their passage by copious fomentations of hot water and diligent use of the "Cascade."

Sometimes it is impossible for the stone to pass. Then it has to be removed surgically. The regular use of the "Cascade," with the Antiseptic Tonic, will frequently prevent their formation. At the first symptoms of pain in the region of the liver, follow the directions for treatment of that organ, especially the exercises, and drink freely of olive oil.

MASSAGE, SHEET-PACKS, ETC.

Massage.

This is the application of motion and pressure to the body, and is a most important factor in preserving or restoring health. It affords a sick person many of the benefits to be obtained from exercise without the physical effort, which he is unable to exert. The sweat glands, capillaries, and lymph channels, which constitute thousands of miles of tubing, in the body of a grown person, are, by carefully and systematically applied massage, stimulated to action. The currents in these vessels are a necessity of life. When they are obstructed, weakness is the result; when they cease, decay and death ensue.

When we rub our hands or feet, we say the friction warms them; in reality it is the inner vessels which are stimulated, and bring more

warm blood to the parts. If this process is extended over the whole available surface of the body, the most beneficial results will follow.

There are three recognized methods of application.

First—Rubbing, to stimulate the skin to action.

Second—Rolling, and pinching gently, also a kneading movement, used principally to stimulate the stomach, bowels, and muscular tissues.

Third—Percussion, or tapping with the ends of the fingers, softly—most efficacious in stimulating the action of the lungs.

Rub the surface first with a little olive oil, or vaseline. Use the tapping movement for the chest and back, the rubbing movement for the stomach and bowels, and the pinching or kneading movement for the limbs. In dyspepsia and constipation, great benefit is derived from massage treatment of the stomach and colon—starting the movements in the right groin, where the colon commences, and following its course to its rectal extremity (con-

sult diagram). For rheumatism, sprains, etc., commence with hot oily applications.

Most people find massage treatment to have a gentle, soothing effect. Nearly all find their appetite increased.

The Stomach Bath.

The first method is simplicity itself, and consists in drinking from half to a pint of hot water, as hot as can be drank with comfort, in the morning after rising, or half an hour before breakfast. It loosens up the mucus in the stomach, and in half an hour it will have passed out.

The Turkish Bath.

Provide a wooden bottomed chair, and having stripped the patient of all clothing, except a pair of woolen drawers to protect his legs from the heat, let him sit on it, with his feet ankle deep in a hot foot bath, just as hot as he can bear. Wrap him about first with a blanket, tucking it close around the neck, but letting it hang loose over the chair and vessel containing the foot bath, but so arranged as

to exclude the air from his person. Over the blanket wrap one or two heavy comfortables, the object being to prevent the escape of the heat and exclude the outside air from the body. Raising one side of the comfortables and blanket, place under the chair an old tea-cup half full of alcohol. Set it on fire and again close the opening. Give him a drink of cold water, and if the head feels oppressed, apply a wet towel wrung from cold water. Add more hot water to the foot bath once or twice, keeping it as hot as he can bear it during the continuance of the bath. Keep him in the bath until the alcohol is all burned out. Then wash him down with soap and tepid water, sponge off with cool water, rubbing the flesh and working the muscles vigorously the meanwhile. Then dry off by patting the skin with the towel (not rubbing it), leaving a little moisture on it; dress quickly and let him lie down for an hour or put him to bed.

The Wet-Sheet Pack.

Spread over the bed or cot two or more heavy comfortables, over these a pair of blankets, then, if for a person of strong vitality, wring a sheet out of cold water just dry enough not to drip, and spread it over the blanket; lay the patient stripped of all clothing on the sheet with his arms by his sides, tuck the sheet around him, then the blankets and comfortables, leaving his head out but tucking it close around the neck and over his feet—making a mummy of him, so to say. If the head is hot or aches, apply a towel wrung from cold water and renew it as often as it gets warm. To the feet apply a hot water bottle. Let him lie in the pack from twenty to forty minutes, or even longer if he is comfortable. He will soon get warm and sweat freely. This is the end desired. If he goes to sleep, as is often the case, don't be in a hurry to wake him up. He will take no harm so long as he keeps warm. See that there is plenty of fresh air in the room. When he has been in the pack a sufficient length of time close the windows, then take him out and

wash him down thoroughly with soap and soft, tepid water, then sponge off with cooler water, rubbing him down vigorously and working the flesh the meanwhile. If not too weak he should assist in this operation. Then dry off by patting the skin with the towel (not rubbing it), leaving a little moisture on the skin. Then, if in the day time, and the weather is not too cold, a little exercise in the open air will be beneficial. If he is too weak to exercise put him to bed again.

Before and during the pack let him have all the cold water he wants to drink, in small quantities at a time. If the patient has but little vitality, wring the sheet out of tepid water instead of cold water.

The hot sheet-pack is used in the same manner, the only difference being that the sheet is wrung out of water as hot as can be borne.

Care of the "Cascade."

What is worth having is worth taking care of; and the "Cascade" is so likely to be called into emergency service, that it should be al-

ways in order—hence the following suggestions:

After using it, hang it up by the eyelet, until it ceases to drip; then put in the stopper. The small amount of moisture left in will help to keep it flexible. It should be kept hanging, if possible, as folds in the rubber predispose it to crack. It should be kept in an even temperature, neither too hot nor too cold.

Never pour boiling, or very hot water into it—it is not designed to withstand such a degree of heat, and do not let grease, in any form, come in contact with it, as grease decomposes rubber.

PART VIII.

Some Helpful Suggestions.

Prevention is better than cure, and the great elements of prevention are, knowledge of self, cleanliness, physical, mental and moral; hygiene and sanitation. Nothing is so essential as a knowledge of the functioning of the body, for it is the vehicle through which the real self is to find expression; through which he is to achieve success or failure, according to the condition of its mechanism.

No engineer can obtain from the machine under his control the highest results, unless every part of the mechanism is in perfect working order. How much more important, then, that the human organism should be in perfect adjustment, since through it the mentality is to find its highest expression? Without a knowledge of its construction and its working principles, how is the individual to

raise the human machine to the highest plane of excellence and maintain it there? No one is allowed to run an engine without first passing an examination, which necessitates a certain amount of study and knowledge of the laws of mechanics; yet men undertake to run that complex machine, the human body, in utter ignorance of physiological law! Is it any wonder that there are so many breakdowns?

I may remark here that all human beings are not endowed alike with nervous force; it is largely a matter of heredity, but what we have may be cultivated and developed. Failure to do so renders the individual liable to nervous breakdown, or neurasthenia, as it is popularly termed, a widespread disease, especially in America, where the strain of life is greater than elsewhere. Competition, a desire to go beyond one's fellows in achievement, working beyond the strength, together with lack of care of the physical system, all conspire to keep constant the undue excitement of the nerves that ends in exhaustion. Children born of nervous parents, with weak nerv-

ous systems, should be fortified against the risks of inheritance by hygienic measures, during their developmental period, strengthening in every way their physical and mental endowments. Even those well developed in this respect should husband his or her resources—always keeping a reserve fund by avoiding undue fatigue, spending plenty of time in sleep, taking care of the body, and arranging for intervals of rest that shall include change of scene and environment.

Above all, cultivate the habit of happiness. Whatever else you may neglect, do not neglect that, for the happy habit is the greatest treasure that any individual can possess. Happiness depends largely upon physical conditions. With poor health, perfect happiness rarely exists; therefore it is your duty to be healthy, and the possession of health is in the majority of cases a matter of personal endeavor. But although the physical is important in health, yet the physical is dominated by the mental, and if you resolve to be happy, you can succeed.

No surer road to personal happiness can be

found than endeavoring to make others happy. If you find it difficult to be cheerful, there is more need to look to your surroundings. Read none but cheerful books; cultivate cheerful acquaintances. You will be amply repaid for your endeavors to cultivate the habit of happiness. From the standpoint of health, it is a profitable proceeding, for joy quickens the circulation. You can get the happiness habit if you wish to, and it is your duty to yourself and those around you to do so. If the clouds are lowering, do not give way to depression. Rouse yourself. Look for the rift in the clouds, disclosing the little patch of blue, and hope for the triumph of fair weather over foul. Even if you do not attain the degree of happiness you anticipated, you will find yourself improved, mentally, morally and physically. Get the habit, remembering that "a happy and contented mind is a continual feast."

And now, in conclusion, I would ask the reader to carefully consider the facts herein set forth relating to disease and its treatment. It will amply repay you to do so, for the matter at stake is a weighty one. The preserva-

tion of health is a DUTY that each member of the human family owes to self and friends.

My purpose in this work has been to show people that they can, if they will, be their own physicians—that the preservation of their health is in their own hands. Thoroughly cleansing the system by flushing the colon is a simple, common sense method of treatment, easy of application, thoroughly hygienic in theory, and, beyond all question, immensely beneficial in practice. Thousands of grateful people can testify to its efficiency.

The "J. B. L. Cascade" is the most satisfactory and effective appliance for flushing the intestinal canal that has yet been invented. It is the outcome of years of patient toil and thought, but the thoroughly satisfactory results obtained by it, and the enthusiastic ecomiums lavished upon it by its beneficiaries are regarded by the inventor as an ample and commensurate reward (not wholly undeserved) for the mental labor involved in its successful evolution.

Its simplicity is such that it can be manipulated by any intelligent child, and its price, by

comparison with its remedial virtues, is insignificant. With this perfected apparatus, and the J. B. L. Antiseptic Tonic, any parent can constitute himself the physician of his family, and by following the directions for the treatment of the various diseases described in this work, can successfully combat them—and all at a trifling cost. But more than that, he can, by periodical use of the "Cascade," so improve the physical condition of himself and family, that they will forget what sickness is, and rejoice in that exhilaration of spirit that only comes with perfect health.

My system of treatment is *true* in philosophy, in *harmony* with Nature, and thoroughly rational in practice.

INDEX TO TREATMENT OF DISEASE

	PAGE
Anæmia	152
Anteversion	188
Appendicitis	177
Asthma	185
Bilious Fever	167
Blood Poisoning	154
Bronchitis	185
Catarrh	159
Cholera Infantum	214
Common Colds	189
Constipation	191
Consumption	156
Croup	212
Diabetes, or Diabetes Mellitus	205
Diarrhœa	170
Diseases of the Kidneys	181
Diseases of the Liver	178
Diseases of the Nerves	171
Diseases of the Skin	181
Dropsy	175
Dysentery	169
Dyspepsia	162
Epilepsy, or Falling Sickness	197
Erysipelas	161
Fistula	210
Gonorrhea	198

PAGE

Gall Stones 216
Headache 174
Heart Disease 150
Hernia, or Rupture 199
Inebriety 200
Infantile Convulsions, or Fits 215
Inflammation of the Breast 209
La Grippe 168
Locomotor Ataxia 207
Lost Manhood 203
Measles 214
Milk Fever 210
Nursing Mothers 208
Obesity 201
Paralysis, or Palsy 194
Peritonitis 183
Piles, or Hemorrhoids 192
Pneumonia 183
Puerperal Swelled Leg 210
Retroversion 189
Rheumatism 164
Scarlet Fever 213
Sore Nipples 209
Typhoid Fever 165
Uterine Displacement 186
Worms in the Intestines 215

IF YOU SUFFER

FROM ROUGH, SCALY OR CRACKED SKIN

If You Value a Good Complexion

Use

Dr. Tyrrell's Health Soap

REFRESHING, PURIFYING, INVIGORATING

Among the necessities of life there is one to which few people pay the attention they ought, and that is Soap. Yet it is undoubtedly a most important matter, for the skin is a very delicate and sensitive organ, and the constant application of impure or inferior Soaps injures its texture, and gives rise to numerous cutaneous troubles. Most people are content, so long as it appeals to the eye and the sense of smell, without stopping to consider that perfumes may be employed to hide defects.

Dr. Tyrrell has given this matter long and profound consideration and we now offer to the public a SOAP that leaves nothing to be desired. It is not only absolutely free from any deleterious substance, but is a perfect antiseptic and medicinal soap. Its use thoroughly cleanses and invigorates the skin, keeps it soft, flexible and healthy, and effectually prevents rough, cracked and scaly conditions. It is invaluable for TAN, FRECKLES, SUNBURN, Etc., and is a perfect hygienic safeguard against cutaneous disorders. It is a positive pleasure to use it for the toilet or bath. It leaves such a grateful, refreshing after-effect.

As a SHAVING SOAP it is unequalled, absolutely preventing those disagreeable results that frequently follow the use of ordinary soaps.

25 Cents Per Cake

MANUFACTURED SOLELY BY

TYRRELL'S HYGIENIC INSTITUTE

152 West 65th Street, New York City

The J. B. L. Antiseptic Tonic

should always be used with the "J. B. L. Cascade." It purifies the water and kills all the germs, as well as destroying the germs in the colon.

But the Antiseptic Tonic possesses another important property which is most valuable in cases of Constipation. It acts as a wonderful tonic on the muscular coat of the colon, strengthening it and restoring it to normal. There is no other preparation which will do this work in the same way. This remarkable tonic has the endorsement of many of the leading rectal specialists in the country. It is a powerful germicide, yet absolutely harmless to even the more delicate structures.

Owing to the importance of using the tonic we have arranged to make it as inexpensive as possible, so are prepared to furnish it in one pound air-proof boxes at $1.00, by mail twenty-five cents extra. You can buy it at your druggist and save mail charges.

TYRRELL'S HYGIENIC INSTITUTE
152 West 65th Street
New York City

The "J. B. L." Pile Ointment

There is no sufferer from Piles who does not know the misery, the aggravating pain, the intolerable itching, and the terrible weakness caused by Bleeding PILES. They are among the most obstinate conditions that afflict men and women.

Ordinary treatment is of no avail. There is only one remedy that can be depended upon for certain results.

This is the "J. B. L." PILE OINTMENT, a scientific blending of the purest and most healing balsams, herbs and oils.

One application of this grateful, soothing ointment will instantly relieve the burning pain, the distressing irritation, the intense itching of even the worst case of hemorrhoids.

Continued use will prevent further bleeding, and, in most cases, will do away with the need for any operation.

Send to-day for a tube of this wonderful OINTMENT, and keep it always in the house.

TYRRELL'S HYGIENIC INSTITUTE

152 West 65th Street **New York City**

You're Not Healthy Unless You're Clean Inside

And the one way to real internal cleanliness—by which you are protected against ninety per cent. of all human ailments—is through **proper** internal bathing, with warm water and J. B. L. Antiseptic Tonic.

There is nothing unusual about this treatment—no drugs, no dieting—nothing but the correct application of Nature's own cleanser. But only since the invention of the "J. B. L. Cascade" has a means for **proper** internal bathing existed.

Only one treatment is known for actually **cleansing** the colon without the aid of elaborate surgical apparatus. This is The Internal Bath by means of the "J. B. L. Cascade" and the Antiseptic Tonic.

Prof. Metchnikoff, Europe's leading authority on intestinal conditions, is quoted as saying that, if the colon and its poisonous contents were removed, people would live in good health to twice the present average of human life.

Dr. A. Wilford Hall, Ph. D., LL. D., and W. E. Forest, B. A., M. D., two world-famous authorities on internal bathing, are among the thousands of physicians who have given their hearty and active endorsement and support to the "J. B. L. Cascade" treatment.

Fully half a million men, women and children now use this real boon to humanity—most of them **in accordance with their doctor's orders.**

LET US ADVISE YOU

We are always very glad of an opportunity to consult freely with any one who writes us—and **at no expense or obligation whatever.** As to the value of this treatment we will tell you facts which you will realize are of **vital importance.** You will also receive our book "The What, The Why, The Way," which is a most interesting treatise on internal bathing. You will find information in this book that will mean much to you and to those who look to you for help.

TYRRELL'S HYGIENIC INSTITUTE

152 West 65th Street, New York City

The "J. B. L." Catarrh Balm

Catarrh, if not properly attended to, is really one of the most dangerous of all diseases.

Inflammation developes in the mucous membranes, and all sorts of harmful germs breed in the tissues, lodge in the tonsils, and air-passages, and are swallowed with the food—especially the germs of tuberculosis, influenza, diptheria, and other grave disorders.

Also head colds, hay-fever, sore throat, and all discharges from the nose and ears.

The germs may attack the stomach and intestines, causing chronic indigestion, sometimes ulcers, perhaps even cancer.

They also cause thickening of the membranes of the nose, disease of the bones, or abscesses in the sinuses, making painful or dangerous operations necessary.

Catarrh may cause headaches, loss of memory, inability to think clearly, mouth-breathing, adenoids, polyps, and mental and physical deterioration.

The gravity of Catarrh has been altogether underestimated. Yet its effects have been most destructive, principally because there has hitherto been no really satisfactory method of overcoming it.

The "J. B. L." CATARRH BALM is the *one* treatment that has relieved these old chronic conditions, after almost everything else has been tried without success.

Merely put a small portion, about the size of a pea, in each nostril, then lie down, letting it dissolve, so that the healing, soothing oils can run to the throat.

You'll begin to improve from the *very first application.* In a short time all your troubles will be corrected.

Keep your system free from poison by using the "CASCADE" and the "ANTISEPTIC TONIC" regularly. Then use the "J. B. L." CATARRH BALM night and morning, and see how much better you'll feel within a week.

Send to-day for a large box of this healing BALM.

The price is $1.00, with postage from your zone.

TYRRELL'S HYGIENIC INSTITUTE

152 West 65th Street, New York City

Tyrrell's Antiseptic Inhaler

Sleep Your Cold Away

Gone is the day when you need fear the serious consequences that frequently develop from a cold. Instead of doctoring it for days, often weeks, and sometimes months, you now root it out over night.

The whole secret of killing a cold is in *keeping at it.* An occasional stream of water does not put out a fire nearly as quickly as a steady stream. And on the same principal, you drag along with a cold because you lack the means of keeping constant medication on the spot where the cold has settled.

But our new invention has been perfected that strikes right at the root of a cold and keeps striking it with every breath you take, under this constant medication a cold simply cannot hold on, it most go.

Tyrrell's Antiseptic Inhaler acts in exactly the same way for hay-fever, asthma, catarrh, or any nasal or throat troubles, positively guaranteed harmless.

If you use this inhaler you will eliminate those restless sleepless nights caused by your inability to breathe freely.

The complete outfit of Tyrrell's Antiseptic Inhaler, consists of a small soft rubber inhaler which fits into the nostrils, a roll of cotton wool, and a bottle of Tyrrell's Antiseptic Inhalent. Price $1.00, with postage from your zone.

TYRRELL'S HYGIENIC INSTITUTE

152 West 65th Street, New York City